

ANNUAL SESSION NUMBER

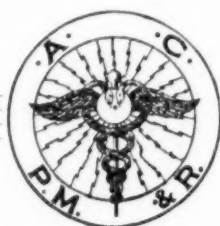
Archives of
**PHYSICAL MEDICINE
AND REHABILITATION**

(Formerly Archives of Physical Medicine)

Official Journal

American Congress of Physical Medicine and Rehabilitation

American Society of Physical Medicine and Rehabilitation



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VOLUME XXXIV

JULY, 1953

NO. 7

ANNUAL SESSION • CHICAGO • AUGUST 31-SEPTEMBER 4, 1953

**American Congress of Physical Medicine
and Rehabilitation**

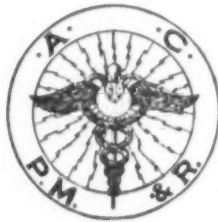
31st Annual

Scientific and Clinical Session

and

Instruction Seminar

August 31 through September 4, 1953



Official Headquarters
THE PALMER HOUSE
Chicago

EXECUTIVE OFFICES

30 NORTH MICHIGAN AVENUE

CHICAGO 2, ILLINOIS

INSTRUCTION SEMINAR

in conjunction with the

31st Annual Scientific and Clinical Session

American Congress of Physical Medicine and Rehabilitation

PALMER HOUSE — August 31, September 1, 2, 3, 4, 1953 — CHICAGO

SCHEDULE

| | | | |
|---|--|--|---|
| MONDAY MORNING — AUGUST 31 | | MONDAY MORNING — AUGUST 31 | |
| (A) 9:00-9:50 A.M. Pathological Physiology of Lesions of the Cervical Portion of the Spinal Cord and Brachial Plexus | (B) 10:00-10:50 A.M. Pathological Physiology of Lesions of the Lower Spinal Cord and Lumbar and Sacral Plexus | Symposium on Cerebral Palsy (1) 9:00-9:20 A.M. Therapeutic Exercise for Athetosis and Spasticity Perlstein | (1) 9:20-9:40 A.M. Bracing for Athetosis and Spasticity Allen |
| | | Discussion Period (2) 10:00-10:20 A.M. Neurosurgery in Cerebral Palsy Fay | (2) 10:20-10:40 A.M. Preschool Training of Cerebral Palsy Gillette |
| Brown | Brown | Discussion Period | |
| MONDAY AFTERNOON — AUGUST 31 | | MONDAY AFTERNOON — AUGUST 31 | |
| (C) 3:00-3:50 P.M. Electromyography— Basic Physiology of the Motor Unit and Its Electrical Activity and Responses Lambert | (D) 4:00-4:50 P.M. Electromyography Clinical Techniques Lambert | (3) 3:00-3:50 P.M. Principles of Muscle Reeducation Bennett | (4) 4:00-4:50 P.M. Methods of Application of Mass Movement and Facilitation Techniques for Therapeutic Exercise Kabat |
| TUESDAY MORNING — SEPTEMBER 1 | | TUESDAY MORNING — SEPTEMBER 1 | |
| (E) 8:30-9:20 A.M. Physiological Principles of Artificial Respiration Kubicek | | Symposium on Multiple Sclerosis (5) 8:30-8:50 A.M. Use of Drugs Sweeney | (5) 8:50-9:10 A.M. Rehabilitation Proce- dures and Aids Gordon |
| | | Discussion Period | |
| WEDNESDAY MORNING — SEPTEMBER 2 | | WEDNESDAY MORNING — SEPTEMBER 2 | |
| (F) 8:30-9:20 A.M. Physiological Background for Neuromuscular Reeducation and Coordination Knowlton | | (6) 8:30-9:20 A.M. Microthermy: Physiological Basis for Its Use, Indications and Dangers Rae | |
| THURSDAY MORNING — SEPTEMBER 3 | | THURSDAY MORNING — SEPTEMBER 3 | |
| (G) 8:30-9:20 A.M. Pathology of Trauma and Its Implications in Physical Treatment Knapp | | (7) 8:30-9:20 A.M. Classification, Diagnosis and Treatment of Myelopathies Marks | |
| FRIDAY MORNING — SEPTEMBER 4 | | FRIDAY MORNING — SEPTEMBER 4 | |
| (H) 8:30-9:20 A.M. Anatomy of the Cervical Portion of the Spinal Cord and Brachial Plexus Hollinshead | | (8) 8:30-9:20 A.M. Complications of the Use of Hormones in the Treatment of Rheumatism Polley | |

Note: The Committee on Education of the American Congress of Physical Medicine and Rehabilitation is in charge of the instruction seminar. It is purposely planned to limit the subjects in any year to a few topics in order to devote enough time to those subjects to give those attending a good review, both from the standpoint of basic knowledge and from the clinical standpoint. Certain groups of these subjects will be repeated every three to five years.

Courses are offered in two separate groups: One group, designated by letters, consists of eight lectures on basic subjects. A second group of eight lectures, designated by numerals, will present more general and clinical subjects. Physicians as well as physical therapists who are registered with the American Registry of Physical Therapists will be permitted to register for these courses. Members in good standing of the American Occupational Therapy Association are also eligible to enroll for the instruction course.

The schedule of the seminar, as arranged, will permit attendance at both the course and scientific sessions. Each registrant for the course is allowed the choice of one lecture during a period. The charge for the complete schedule of eight lectures is \$15.00. Fewer than eight lectures may be scheduled at \$2.00 per lecture. The right is reserved to reject any application if the Course Committee finds it desirable to do so. Registration for specific courses cannot be guaranteed when quotas are filled.

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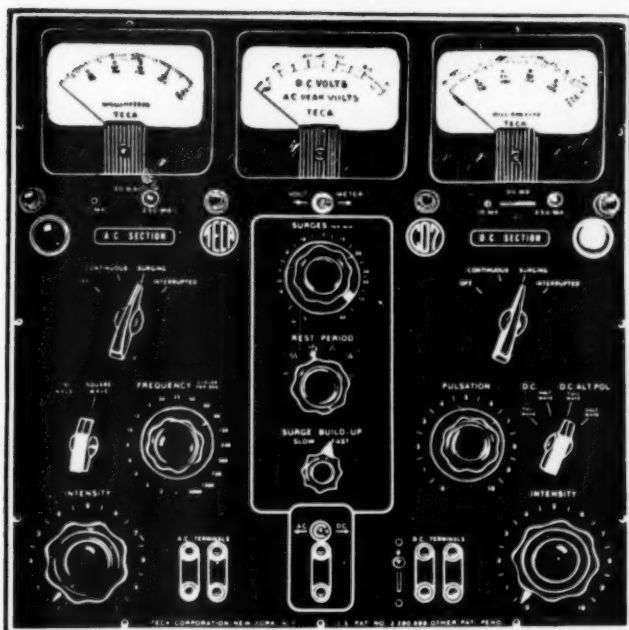


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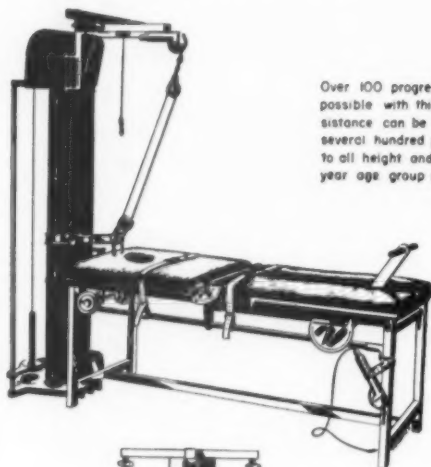
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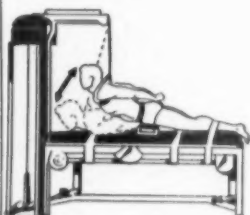
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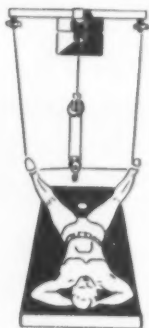


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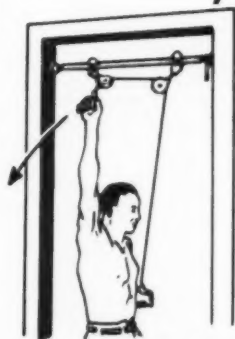
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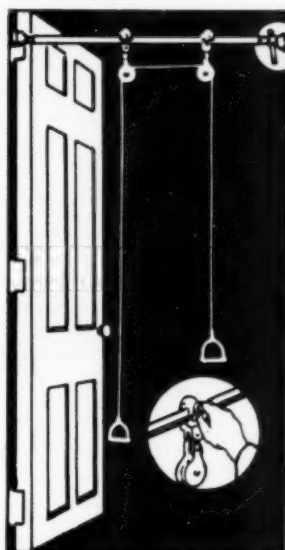
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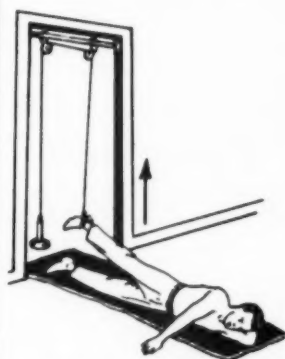
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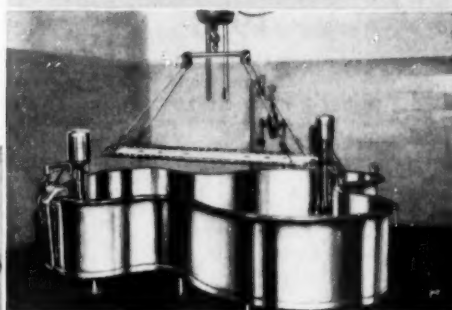
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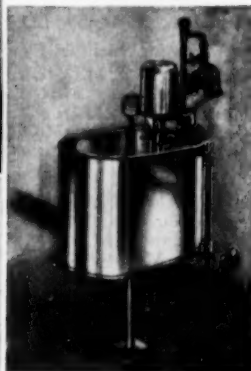
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IMPORTANT ANNOUNCEMENT: Notice to all members of the American Congress of Physical Medicine and Rehabilitation.

Please take notice that at the forthcoming annual meeting of the American Congress of Physical Medicine and Rehabilitation to be held on Monday, August 31, 1953, at the Palmer House in Chicago, Illinois, there will be submitted for acceptance or rejection the following amendment to the Constitution of the Congress:

"Article IX, Section 3 — Meetings.

The Board of Governors shall meet at least once during the annual session of the organization and such other times as may be required. A quorum of five members shall be sufficient for the conduct of business."

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Contents — July 1953

Volume XXXIV

No. 7

ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION

(Formerly Archives of Physical Medicine)

30 North Michigan Avenue, Chicago 2, Illinois

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EDITOR OF THE MONTH

EARL C. ELKINS, M.D.

Rochester, Minn.

The Status of ULTRASONIC THERAPY

The interest in any new physical measure brings inquiries to leaders in the field of manufacture: What are the indications? What are the dangers? How is it used? When may we have equipment?

Preliminary evaluation of ultrasonic therapy indicates that this is a useful therapeutic agent. The ultrasonic effect in the tissues is largely thermal, but the manner in which heat is generated differs from that of short wave or micro wave diathermy.

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Work Program For The Disabled Housewife*

EDITH LIND KRISTELLER, M.D.**
NEW YORK, N. Y.

It is the purpose of this paper to call attention to a branch of vocational rehabilitation that has heretofore not received sufficient attention in spite of the fact that most women have been engaged in this type of work either part-time or full-time before they became disabled and will return to it after their physical rehabilitation. I am speaking of homemaking. It is a vocation which is singularly well suited for the disabled woman, especially one with a family, since it does not require transportation and at the same time gives the patient ample opportunity to utilize all kinds of skills and abilities. If the patient masters her task she will not only be able to take care of herself but she will also contribute to the welfare of others and possibly free a member of her family for a gainful occupation.

The special problems of the disabled housewife need hardly to be mentioned here. Beside the difficulties arising from the underlying disability, further restrictions are created by the supporting apparatus themselves. A patient with long leg braces cannot bend down very far. Frequent changes from the sitting to the standing position and vice versa are cumbersome. If she has crutches she often does not have her hands free for work. The patient in the wheel chair cannot reach up very far or get to the lower shelves. She cannot get to the back portion of wide shelves. Maneuvering in a narrow space is difficult and wheeling back and forth in wide areas is tiresome. The available energy of all disabled patients is very much curtailed. It has for instance been found that operating a wheel chair at 1.2 miles per hour requires 1.7 times more energy than stroll-

ing at the same rate of speed'. Patients with hand disabilities from any cause present special problems.

For the past two years the Department of Physical Medicine and Rehabilitation at New York University-College of Medicine has been engaged in a research project under the sponsorship of the Disabled Homemakers Research Fund established by a number of the nation's public utility companies to attempt to learn how all these problems can be met.

Time and motion economy which leads to conservation of energy has to be taught. Attempts have to be made to bring those working areas closest together where most of the work is done^{2,4}. The places of work have to be changed in such a way that the patient can wheel close up to them and operate at a comfortable work height. Figure 1 shows a patient at a stove of ordinary height where she has to lift the pot to the burner and where she cannot see what she is cooking. Figure 2 shows her after the range has been lowered. A comfortable work height for a patient in a wheel chair is 31 to 32 inches, with a clearance of 30 inches for the armrests, if it is a table. Even at that height she will work almost at the level of her shoulders. A lower work surface for mixing and other activities can be gained with the use of a specially designed lap board (fig. 3). Shelf space can be made more accessible by changing the lower shelves into pull-out drawers (fig. 4). For these and other alterations the patient frequently needs individual advice. Often she needs help with the rearrangement and refurnishing of her entire home, or with plans of a new one. Special work techniques have to be taught to patients with disabilities of the upper extremities. Various mechanical aids often need to be used. These are either commercially available or have to be individually designed. Thus we had to design a special device

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**Instructor in Physical Medicine and Rehabilitation, Department of Physical Medicine and Rehabilitation, New York University School of Medicine, New York.

for a patient with progressive spinal atrophy who wanted to crack eggs, which she had not been able to do for the last twenty years. Special furniture and equipment which could be considered more or less ideal had been designed by

our interior architect and was shown at the 101st Annual Session of the American Medical Association in June 1952. Lowered work heights, 8 inch toe bases, easily accessible vertical files for storage, and a shelf arrangement in the form



Fig. 1—The patient is shown at a high stove. Note the disadvantageous position she is assuming.



Fig. 2—The patient is shown at her own stove which has been lowered.



Fig. 3—This lap board permits the patient to work at a comfortable height. She uses the cabinet top as a "parking area" for her utensils.



Fig. 4—Pull-out drawers, home made.



Fig. 5—Kitchen for the physically disabled housewife as shown at the 101st Annual Session of the American Medical Association in June 1952. Note the waist-high oven, the component range, and the free knee space under the sink.

of a "lazy susan" were some of the features (fig. 5). However it should be emphasized that many adjustments can be made in the home of the patient as it is. Thus in a housing project a stove could be adjusted to its proper height by taking it off its toe base and placing it on a sheet of asbestos. The sink was made more accessible by removing the framework from the cabinet (fig. 6). Another patient who could not afford properly designed equipment at the time helped herself temporarily with orange crates, which she arranged in such a way that everything was close at hand, where she needed it for the intended work (fig. 7).

The basic equipment necessary for such a training program is a kitchen which has been functionally arranged and which is large enough for a wheel chair. It should contain all kinds of appliances suitable for the various types of patients. However it should be emphasized that we do not feel by any means that the patient needs only instructions in kitchen activities; she needs help in the management of her entire home.

The personnel necessary for such a service is not extensive. At Bellevue Hos-

pital we have one occupational therapist who is also interested in home economics and tuberculosis rehabilitation, who does an excellent job. At the Institute of Physical Medicine and Rehabilitation of the New York University-Bellevue Medical Center our staff consists of five people. The scope of our program there is wider and includes not only patient service but also other activities such as experimentation with available equipment and with new devices and designs, designing of suitable furniture, development of adequate house plans, instructing of therapists and other professional persons.

We have also engaged in some physiological research, studying the energy cost of certain activities inherent in housework and comparing cardiacs and normals. The number of subjects studied has been small, so that we cannot evaluate our figures statistically. However they have shown us a few significant things, for instance that the energy output at a mopping operation could be cut down about 38 per cent by lengthening the mop handle from four to five feet. It is interesting to note that in industry these



Fig. 6—Sink cabinet with the toe board removed and the center panel attached to the left door. The patient can now wheel close up to and under the sink. The range, which had been of the same height as the sink was lowered by taking it off its toe base and placing it on a sheet of asbestos.



Fig. 7—Orange crates arranged in such a way that the patient has all the equipment that she needs at the sink or stove in easy reach in that area, thus eliminating much traveling around.

long handles had been used for a long time, because it has been found that a larger area could be covered at the same time and thereby time and motion could be saved.*

It is hoped that other rehabilitation centers will establish similar training programs. The interest in homemaking as a vocation is increasing everywhere. The "cardiac kitchens" have been well publicized. The Tuberculosis Associations in many places are becoming interested⁶ and the Division of Vocational Rehabilitation in some states has recognized certain needs of the disabled housewife. But more work has to be done. Teaching and further research are needed. We are planning to record our findings in pamphlets and booklets for the patients and for the professional personnel. Some of them are already available.^{7,8} But the problem of a wider distribution of knowledge will be with us for a long time.

Recently we have given a course of instruction to the top home economists of some of the public utility companies in America, with the hope that their consultation services will be made available to the disabled homemaker as they are now to the non-disabled one. We are sure that with this the companies' service not only to the community but also to themselves will be increased. We hope that eventually a time will come when a physician confronted with a patient who has special physical problems in the management of her home, will be able to get in touch with the nearest home economist, explain the patient's problem to her and expect to get some help with instructions in energy saving, in efficient arrangement of her kitchen and with information on commercially available equipment. It is furthermore hoped that whenever more specialized help is needed the physician as well as the home economist will be able to call upon the physiatrist, physical therapist, occupational therapist or nurse, available for consultation for that district. Such a community team work will not only improve the medical care for the patient but will allow many a dispirited home-

maker to live with dignity again, knowing that she again is able to contribute to the welfare and the happiness of her family.

Summary

A plan of vocational training for the orthopedically disabled homemaker has been outlined. The special needs of the patients have been discussed and examples were given as to how these could be met. The necessity for a wider distribution of knowledge, for more teaching and research has been mentioned and the establishment of training programs in other centers has been urged. A plan of utilizing the facilities of the public utility companies has been presented.

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Discussion

Dr. Florence I. Mahoney (Memphis, Tenn.): Most of us who have worked with spinal cord injuries and other severely disabled patients have thought of their rehabilitation in terms of self-care and ambulation activities which fit them for all circumstances they meet when they leave the hospital. We try to teach them a method of handling their bodies safely so that when they meet a new

situation they can apply that method without fear or danger of falling in doing anything they may wish to do.

Since most of our patients are men (we have had only one hemiplegic and four paraplegic women in five years), we have confined our kitchen activities to testing them at a few chores around a stove, sink and icebox which we have placed in our Independence Hall for that purpose. None of these appliances are connected, so no actual cooking can be done. We are merely interested in showing the patient that it is possible to do things for himself in the kitchen.

In talking with patients who live in Memphis, I found that most of them do some cooking and they state they have found no particular difficulty in doing what they wish to do from their chairs and without any particular modification of the environment.

Two of our physical therapists shared an apartment with a paraplegic woman who was doing her clinical practice in clinical psychology. The paraplegic woman did most of the cooking because she liked to and was a better cook than the physical therapists, according to their statement. She had no special adaptations to height of stove, etc., and no difficulty in accomplishing her work. She had considerable spasm of the lower

extremities and a high lesion, and for this reason never accomplished much in ambulation. However, she worked full time at the hospital and did her share of work in the apartment she shared with the two women.

The special need of the housewife who might wish to and could go back to her former job of preparing meals for a family deserves some attention to the details of time and effort-saving techniques. Dr. Kristeller has ably discussed the problems which might arise in preparing a disabled woman to feel confident in returning to homemaking. All housewives like an ideal kitchen in which to work. Modification of a kitchen to the needs of a patient is an individual problem and will be more necessary and extensive for some patients than others. Changes which save time and effort for a wheelchair patient should certainly be done if at all possible.

With such training and adaptations as those suggested by Dr. Kristeller, one might well find a patient considerably more efficient in the kitchen than before her accident or illness. Dr. Kristeller's suggestion that instructions given by public utility companies be utilized for the disabled woman is a good one and should be a possible way of helping more disabled persons.

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ASSISTIVE ACTIVITIES FOR THE CUSTODIAL TYPE PATIENT*

MORTON HOBERMAN, M.D.**

and

HERBERT F. CIVENIA, M.A., R.P.T.†
NEW YORK

During the past decade much has been written and said about "total rehabilitation of the handicapped and disabled." Stress has been placed on the desirability of training and retraining the disabled to live and work independently in their usual environment. Many training programs and tests have been devised to aid and assist in the attainment of this extremely worthwhile aim. Usually, these have involved the development of the necessary physical capacities required for independent living in a normal environment, and a determination of the minimum number of activities which will enable the disabled person to go through the average day without assistance. In general these training programs and tests have resulted in the "total rehabilitation" of many disabled persons.

However, it has become apparent to many in the field of physical rehabilitation, that there are numbers of severely disabled persons who cannot be totally rehabilitated physically. Many of the severely disabled, because of the extent of the neuro-musculo-skeletal involvement, can never become self-sufficient to the degree idealized in most training programs. For these people, we, who are to teach and train them, must accept a lesser degree of physical achievement.

For some reason, assistive activities for custodial type patients*, who depend upon the ability of an attendant to handle them, have received little or no attention in most present day programs of physical rehabilitation. Our attention was focused on this problem as a result

of the large numbers of seriously disabled patients admitted to New York State Rehabilitation Hospital following the 1949 epidemic of poliomyelitis. We had been aware of the fact that many parents, wives, husbands were attempting to delay the discharge of their child or spouse from the hospital. We thought this was due to their belief that further hospital care and treatment would produce a more favorable result. We were somewhat shocked when the parents of a youthful custodial-type patient flatly refused to take their son home on the basis that they were not prepared to cope with the many physical problems which he would place upon them.

It was realized then that the task of taking care of the physical needs of the custodial patient was indeed forbidding and probably accounted for the reluctance of many people to take these patients home.

Except for one excellent film made at Warm Springs, Georgia, and concerned mainly with assistance for upper extremity paralysis, there is surprisingly little in the literature which even mentions the problem, and there are few, if any, attempts to solve it. Although we have spent considerable time and effort on this complex problem, much remains to be done. The task is difficult since in attempting to develop the skills and techniques for assistive activities, one must always be on the alert not to encourage increasing dependency on the part of the patient. Not only are there methods to develop and teach, but there are also the questions of which tech-

*Custodial-type patients are herein defined as those who may be able to sit in a wheelchair or even stand upright in braces with crutches for physiological reasons, but are or will remain completely dependent upon attendant care for help in most or all activities of daily living.

**Read at the Thirtieth Annual Session of the American Congress of Physical Medicine, New York, N. Y., August 28, 1952.

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†Director of Physical Rehabilitation, New York State Rehabilitation Hospital.

nique, taught to whom, for which type of patient, and at what period of rehabilitation, that must be answered.

We wish to emphasize that we do not decry the use of mechanical devices or gadgets in helping the handicapped to help themselves. Many of these devices have been of untold value and aid to many patients. Some gadgets, however, have become so complicated as to require a mechanical genius to operate them as well as to keep them in working order. It is precisely because mechanical devices *do* break down and *do* fail to operate at times, that the families of custodial patients must be taught how to assist and handle the patient in the performance of essential daily activities.

Analysis of Activities

The methods described and illustrated are relatively few in number, and they represent only a fraction of the wealth of ideas available to the interested physiatrist and therapist. Their usefulness has been established by repeated trial and it is hoped that these few methods will assist physiatrists and therapists to envision modifications which will fit the needs of their patients. It is suggested that those individuals charged with the responsibility of caring for custodial types of patients be afforded the opportunity to observe the patient and the therapist performing the activities before going home.

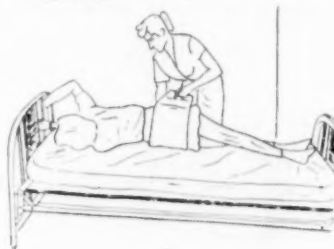
A. Assistive Bed Activities:

1. Movement of patient in bed with minimal strain on attendant (figure 1).



- a. Patient close to edge of bed.
- b. Attendant uses his own leg power for lifting the patient.
- c. Patient offers whatever assistance he can as he is lifted.

2. Turning patient in bed using a draw sheet (figure 2).



- a. Draw sheet under patient.
- b. If patient can, he assists by grasping the bedpost or mattress.
- c. Attendant assists the movement by pulling on the draw sheet.

3. Assisting patient on bedpan. For patients who raise hips without assistance (figure 3).



- a. Attendant stabilizes the legs in hip and knee flexed position.
- b. Patient raises hips.
- c. Attendant places bedpan in position.

4. Assisting patient on bedpan. Patient can raise hips only with assistance (figure 4).



5. Assisting patient on bedpan. Patient unable to lift hips, but can extend neck and upper back. Pillows placed under shoulders and back of patient (figure 5).



- a. Attendant stabilizes the legs.
- b. Patient extends neck and back, raising hips from bed.
- c. Attendant positions bedpan.

6. Assisting patient on bedpan. For more severely involved patients, previous method can be modified by use of a body belt. (figure 8).



- a. Attendant stabilizes legs.
- b. As patient attempts to extend back and neck, attendant lifts patient by means of the body belt.
- c. Patient positions bedpan.

B. Assistive Dressing Activities:

1. Predressing preparation of trousers or slacks greatly facilitates dressing of the custodial-type patient. (figure 7).



- a. Patient in position to be dressed.
- b. Attendant "accordion" trouser leg so that it can be grasped doughnut fashion with one hand.
- c. Attendant dresses patient.

6. Assistive Wheelchair Activities:

1. From wheelchair to bed for the helpless patient. (figure 8).



- a. Attendant tips wheelchair backward until handgrips rest on the bed.
 - b. Attendant positions patient's lower extremities (hips and knees flexed) on the wheelchair seat.
 - c. From opposite side of bed, attendant grasps the patient under the axillae and slides him onto the bed (may also grasp patient at chin and occiput).
2. Wheelchair to bed, for patients who do not have sufficient upper extremity power to complete the transfer independently. (figure 9).
 - a. Patient uses a "sliding-hip biking-layout" method and moves from wheelchair to bed.
 - b. Attendant guides the legs and gives assistance to the hips wherever necessary



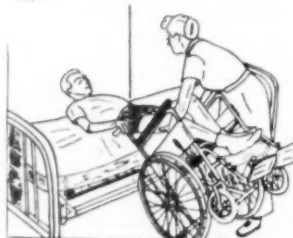
in helping to position the patient on the bed.

3. Wheelchair to bed, car, or chair, utilizing a sliding board. (figure 10).



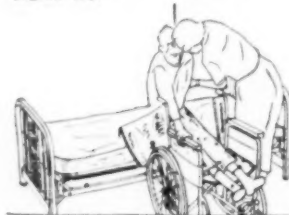
- a. Sliding board placed in position (by patient if possible).
- b. Patient alternately "hip-hikes".
- c. Attendant guides the extremities on the bed, lifting legs and hips when necessary.

4. Bed to wheelchair, helpless patient. (figure 11).



- a. Attendant tips wheelchair backward, handgrips rest on bed.
- b. Patient's legs positioned over back of wheelchair.
- c. Grasping patient under his thighs, attendant lifts and slides patient into wheelchair. (When patient has some upper extremity power, he can assist by grasping the handgrips and pulling himself).

5. Bed to wheelchair, zipper-back wheelchair. (figure 12).



- a. Back of wheelchair facing bed, zipper open.
- b. Patient's legs placed on chair seat. Patient "hip walks" from bed to chair.
- c. Attendant guides legs and assists by lifting when indicated.

6. Bed to wheelchair, zipper back wheelchair. (figure 13).



- a. Back of wheelchair facing bed, zipper open.
b. Patient's legs placed on chair seat. Patient uses a "sliding-hip-hiking-layout" method walking the hips from bed to chair through the zipper back.
c. Attendant guides the legs and assists by lifting when and where indicated.

7. Wheelchair to chair. Assistance given to patient with below functional upper extremities. (figure 14).



- a. Wheelchair and chair are positioned by the attendant so that they are as close as possible.
b. Patient initiates the transfer.
c. Attendant simultaneously gives assistance by lifting at the hips to assist the patient over the gap between the two chairs.

8. Wheelchair to other raised areas (bed, car, or toilet). For the patient who requires total assistance. (figure 15).



- a. Wheelchair positioned by attendant.
b. Attendant immobilizes patient's knees between his legs and lifts patient at the

- hips out of the wheelchair.
c. Attendant pivots patient to the place of transfer (bed, car, or toilet).

9. Wheelchair to shower (in a tub)—accomplished with the use of a shower board. (figure 16).



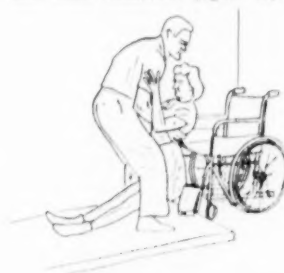
- a. Attendant positions patient's legs either on the shower board or in the tub.
b. Patient initiates transfer movements by any method he can use.
c. Attendant offers assistance at the hips and lifts patients over the gap between chair and tub.

10. Floor to wheelchair. For patient who requires total assistance (figure 17).



- a. Patient in long sitting position, hands in lap.
b. Standing behind patient, attendant reaches under the arms and grasps patient's wrists.
c. Keeping his back straight and with knees bent, attendant stands up, lifting patient onto seat of wheelchair.

11. Floor to wheelchair. For patient who can offer some assistance. (figure 18).



- a. Facing the patient, attendant grasps sides of the chest. Patient's hands rests on attendant's shoulders.

- b. Using his lower extremities for the lift, the attendant brings patient up onto the wheelchair seat.
- c. Patient assists by pushing down on the attendant's shoulders.

12. Taking wheelchair up a curb. For the patient who can offer some assistance. (figure 19).



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- a. Attendant tips wheelchair backward onto the large propelling wheels.
- b. Attendant lifts wheelchair so that small leading wheels touch surface.
- c. At the same time, patient offers assistance by pushing the large wheels in the direction of the movement.

13. Taking wheelchair down a curb. For patient who can offer some assistance. (figure 20).



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- a. Attendant tips wheelchair backward onto the large propelling wheels.
- b. Attendant slides the chair off the curb.
- c. At the same time patient offers resistance to the motion by braking the motion of the propelling wheels with his hands. (figure 20).

14. Taking wheelchair up a curb, small wheels leading. Here again, patient offers assistance by pushing propelling wheels in direction of the movement. (figure 21).



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15. Taking wheelchair off a curb. Large wheels leading. Patient, again, offers assistance by braking the motion of the propelling wheels with his hands. (figure 22).



22

16. Wheelchair to standing position. For patient who stands in braces and with crutches for physiological reasons. (figure 23).



23

- a. Attendant places the crutches on his forearms and grasps the patient at the hips.
- b. Patient assists by placing arms around neck of attendant.
- c. Using his lower extremities for the lift, the attendant brings the patient out of the chair to the erect position.
- d. Attendant places crutches in the axillae and assists patient to establish crutch balance stance.

D. Assistive Home Training Activities:



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1. Parents frequently complain that they develop low back pain as a result of gait training with children. This can be reduced to a minimum by the use of a rolling footstool of the proper height. (figure 24).

Conclusion

Complete independence for all disabled patients is the aim of every rehabilitation program. We are merely calling attention to the fact that there are many circumstances in daily living where the custodial-type patient will require aid and assistance from another person. We are suggesting that those of us interested in total rehabilitation of the disabled, should not overlook the important problem of easing the task of those responsible for the custodial-type patient in the home.

Acknowledgments: 1. Appreciation goes to the entire Physical Rehabilitation Staff of the New York State Rehabilitation Hospital for their interest and contributions in advancing practical measures to aid the custodial patient and his attendant. The authors are indebted to Miss Elaine Mulligan, Stenographer, Physical Rehabilitation Section, who gave willingly of her free time to typing the manuscript and rendering valuable stenographic assistance in many other ways.

Discussion

Dr. Samuel Sherman (Pittsburgh, Pa.): The authors have discussed an important and frequently neglected aspect of medical care in this fine paper. They have shown that assistive activities

for the custodial patient can be simplified and that the manner and concentration of patient activities must be such as to insure as little dependency as possible on attendants. To this end, the physical medicine and rehabilitation service of a hospital can, therefore, be most helpful by instructing those who must look after the custodial patient in proper procedures. The authors have also emphasized that the reluctance and fear of assuming the responsibility for this type of care has resulted in prolonged hospitalization beyond the necessary period. Anyone engaging in the care of such long-term illness should encourage the acceptance of home care medical programs. While the authors have not specifically mentioned protective positioning of attendants, the illustrations are revealing with respect to bending, lifting, and other assistance. This cannot be stressed too strongly since back sprains and other disabling accidents commonly occur among hospital personnel. The attendant must at all times have a mechanical advantage with respect to body positioning.

WHAT?

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PLAN NOW TO ATTEND THIS IMPORTANT MEETING!

TEMPERATURES PRODUCED IN BONE BY VARIOUS METHODS USED IN ULTRASONIC THERAPY

An Experimental Study*†

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Fellow in Physical Medicine and Rehabilitation,

J. F. HERRICK, Ph.D.
Division of Experimental Medicine,
Mayo Foundation,

and

FRANK H. KRUSEN, M.D.
Section of Physical Medicine and Rehabilitation,
Mayo Clinic,
ROCHESTER, MINNESOTA

The early investigations, at the Mayo Foundation, on the biologic effects of ultrasound showed that dangerously high temperatures may be produced in the bones of experimental animals during short exposures to moderate intensities of ultrasonic energy¹. To a large extent this effect has restrained us from clinical use of ultrasound. Nevertheless this new physical agent has been used extensively for therapy in several European countries². It was imperative that we learn how to control the temperatures produced in bone before any consideration could be given to the therapeutic use of ultrasound.

This paper is a report of investigations which have been carried out for the purpose of determining how to control the temperatures which are produced in bodily tissues by ultrasound. At the same time a study has been made of the temperatures which are produced in bone by the various technics recommended by therapists using ultrasonic energy. The method used most frequently by the therapists seems to be that which employs a stroking technic, that is, the sound head (that component part of the ultrasonic equipment containing the vibrating crystal) is moved back and forth over the area to be treated^{3,4}. Some phy-

sicians recommend that the sound head remain stationary over the desired region⁵⁻¹¹. The ultrasonic energy may be emitted continuously or intermittently (in pulses¹²).

Whatever method is used for applying ultrasound in therapy it is most important that a suitable medium be used for coupling the sound head to the bodily tissues being exposed. Very thin layers of air may attenuate the ultrasonic waves completely so that no ultrasonic energy is received by the tissues. The coupling mediums most generally employed are degassed water and mineral oil. When the region to be exposed is relatively large and its contour is irregular, a satisfactory treatment may be administered by submerging the area in degassed water.

The temperature produced in bone seemed to be the best index for a comparative study of the various methods used in ultrasonic therapy because the primary effect of ultrasound is heating and also because the highest temperatures observed during previous investigations occurred in bone¹.

Equipment

Three ultrasonic generators which will be designated as generators 1, 2 and 3 were used in this study. Generator 1 operated at a frequency of 800 kilocycles, had a vibrating surface area of approximately 5 sq. cm., and contained a mechanical 1-cycle-per-second pulsing device. This pulser could be set to give a

*Abridgment of thesis submitted by Dr. Bender to the Faculty of the Graduate School of the University of Minnesota in partial fulfillment of the requirements for the degree of Master of Science in Physical Medicine and Rehabilitation.

†Read at the Thirtieth Annual Session of the American Congress of Physical Medicine, New York, N. Y., August 27, 1952.

pulse duration of 5, 10, 20, 40 and 100 per cent of the duty cycle. Since the terms "100 per cent of the duty cycle" and "continuous energy" are synonymous, they will be used interchangeably. Generator 2 also had a frequency of 800 kilocycles but its vibrating surface area was 10 sq. cm. and it had no pulsing device. Generator 3 operated at 1 megacycle, had a vibrating surface area of 5 sq. cm. and contained an electronic pulsing apparatus. The pulsing circuit could be adjusted to give pulse durations of 1/20, 1/10 and 1/5 of each 1/100 second. Thus all three generators could emit continuous ultrasonic energy but only generators 1 and 3 produced pulsed ultrasonic energy also.

The accurate measurement of ultrasonic energy has been an harassing problem for all who have worked with ultrasound. Since the ultrasonic field is not a cylinder of uniform intensity but more closely resembles a cone, it is hardly correct to express the amount of energy present at any point in the field in terms of watts per square centimeter when this is based on the total wattage output divided by the area of the vibrating surface. Through use of Siemen's "dosimeter" or "sonotest" it is possible to obtain a measurement of the total output of the ultrasonic generator. This apparatus, a pressure balance, is calibrated in watts of ultrasonic power. As a basis for dosage and also for comparison of experimental results, the ultrasound power meter was indispensable in this study.

The measurement of temperatures in the tissues was accomplished by the use of bare copper-constantan thermocouples constructed of mil wire (0.0025 cm. in diameter). The "hot" junction of some of the thermocouples was mounted in

hypodermic needles of various length and gauge and the lead wires to the needles were enclosed in polythene tubing. Accurate measurement of temperatures in tissue was possible before, during, and after irradiation with ultrasonic energy while using these thermocouples. The rectal temperature of the experimental animals was measured by means of a thermistor.

In order to ensure reproducible experimental conditions when employing the stroking technic, a rectangular plastic tank was designed which contained the coupling medium (figs. 1 and 2). In the bottom of this tank at the center was a tapped hole into which the sound head of generator 1 could be screwed. The bottom was constructed so that it could slide back and forth permitting the sound head to move from one end of the chamber to the other. This to-and-fro motion was accomplished easily by a suitable system of levers. Mineral oil at constant temperature was circulated continuously through the tank. The open tank was recessed in a table so that the cleanly shaven leg of the experimental animal lying on the table could be partially submerged in the oil thereby ensuring good coupling to the ultrasound.

Procedures

Experiments were performed on the femurs of 17 fasting, anesthetized, adult dogs ranging in weight from 9.4 to 18.9 kg. With sterile technic, a small incision was made on the medial aspect of the thigh about 6 cm. above the knee. The medial surface of the shaft of the femur was exposed by blunt dissection. A hole slanting toward the hip joint was drilled through the cortex of the femur with an

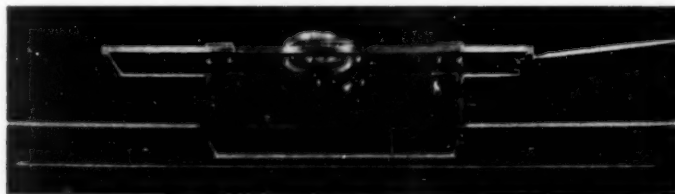


Fig. 1—Plastic coupling chamber with sliding bottom constructed for use with generator 1.

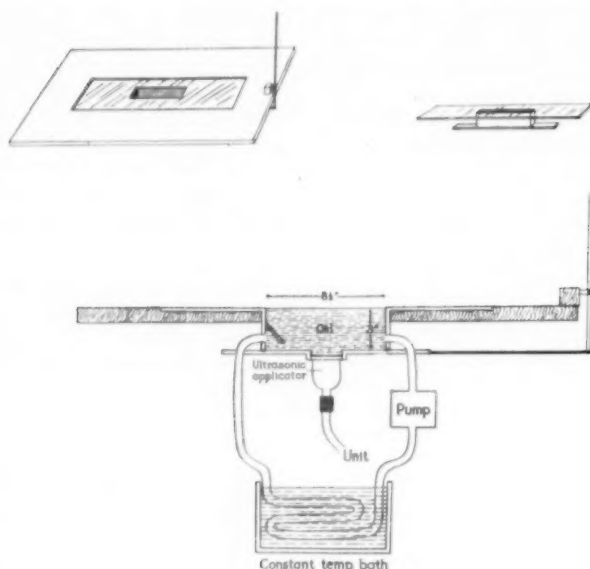


Fig. 2—Schematic representation of the plastic coupling chamber with sliding bottom constructed for use with generator 1. Note the lever for actuating the sliding.

electric dental drill. This hole was extended through the marrow and halfway into the lateral aspect of the cortex of the femur by use of a fine drill held in a pin vise. A blunt needle thermocouple having the same outside diameter as the hand drill was placed in this hole. Once inserted properly into the hole in the lateral cortex, this thermocouple could be removed only with difficulty. In five femurs a second hole was drilled vertically through the medial cortex of the femur proximal to the first hole and in the same frontal plane. A short, blunt needle thermocouple with a flange on it to control the depth of penetration was inserted into the marrow through this hole. The position of the thermocouples was checked by anteroposterior and mediolateral roentgenograms (fig. 3). In this manner we attempted to place one thermocouple in the bone marrow so that it would be in the same frontal and transverse planes as the tip of the thermocouple which had been placed in the cortex.

The 5 dogs with two thermocouples in the femur, one in the cortex and the other in the marrow, and 5 dogs with

one thermocouple in the femoral cortex alone were each positioned over the plastic chamber so that ultrasonic energy would pass from the applicator through the coupling medium to the lateral aspect of the dog's thigh. In this position the tissue through which the ultrasonic energy passed before encountering the bone had not been disturbed by any operative procedure or temperature-measuring device. The lateral side of the dog's thigh was placed in contact with the oil so that the knee joint was at one end of the chamber and the hip joint at the other end. Precise alignment in the ultrasonic field of the region containing the thermocouple had to be achieved before the experiment proper was begun. This was accomplished during a preliminary experiment (a trial run) by positioning the femur in the ultrasonic field so that maximal acceleration of rise in temperature was obtained. The dog was then gently but firmly supported in this optimal position for the experimental observations. Temperatures were recorded through a system of galvanometers and photographed continuously in most of the experiments. Additional pentobarbi-



Fig. 3—Alignment and position of needle thermocouples in the cortex and marrow of a dog's femur.

tal sodium was administered intravenously as needed in this and all subsequent experiments to keep each dog anesthetized.

Generator 1.—In the series of experiments on the five thighs containing two thermocouples, fifty-four runs were made at a total output of 5 watts of ultrasonic energy from generator 1 for a duration of two minutes using 10, 20, 40 and 100 per cent of the duty cycle. Temperatures were obtained from readings taken simultaneously from the two thermocouples. Temperatures were photographed for a minimum of two minutes before each exposure to ultrasound, during each exposure, and for two to four minutes after the irradiation. Observations of control data were made over a longer period than the two minutes immediately preceding the ultrasonic irradiation when the photographic recording was begun.

Sixty runs were made on the five thighs containing one thermocouple at a total output of 5 and 10 watts of ultrasonic energy for two minutes using 5, 10, 20, 40 and 100 per cent of the duty cycle. The sound head remained stationary during these sixty runs. After a thigh had received both continuous and pulsed ultrasonic energy in this manner, a stroking technic was used. Stroking was performed by sliding the bottom of the chamber rhythmically so that the applicator moved back and forth from one end of the chamber to the other. The speed of movement was regulated so that

the field of ultrasonic energy passed over the whole length of the femur every five seconds or every 2.5 seconds; experiments were performed at each of these speeds for ten minutes at total outputs of 5 and 10 watts respectively.

Generator 2.—Six of the thighs containing one thermocouple received ultrasonic irradiation from generator 2. The plastic chamber designed for use with generator 1 could not be used when performing experiments with generators 2 and 3. In these experiments the sound head was placed directly on the thigh after application of mineral oil to the cleanly shaven surface. Each dog was positioned so that the lateral surface of the thigh to be irradiated faced upward. Although a generous coating of mineral oil was applied to the thigh before turning on the ultrasound, it was necessary to replenish the oil frequently during the course of a day's experiments. The ultrasonic applicator was clamped vertically above and lightly touching the thigh. It was found that the layer of mineral oil provided suitable coupling.

Since there was no means of pulsing the output of energy from generator 2, only stationary and stroking technics could be employed. Twenty-seven stationary applications of ultrasonic energy were made at total outputs of 5, 10 and 20 watts for a duration of two minutes. A stroking technic was used thirty-eight times at total outputs of 5, 10 and 20 watts. The stroking technic used in these experiments was similar to that used in

clinical therapeutic irradiations. The sound head was held by the operator and moved slowly along the course of the femur on the lateral aspect of the thigh from hip to knee and back. The length of the femur was traversed every five seconds during a ten-minute exposure.

Generator 3.—The remaining four thighs in which one needle thermocouple had been placed in the lateral aspect of the femoral cortex were exposed to ultrasonic irradiation from generator 3. The technics of positioning the dog and the applicator were the same as those described for generator 2. Fifty-eight stationary continuous and pulsed (1/20, 1/10 and 1/5) runs were made at total outputs of 5 and 10 watts for two minutes each. A stroking technic was used for seventeen exposures which lasted ten minutes each at total outputs of 5 and 10 watts of ultrasonic energy.

Results

The average rises in temperature of the cortex and marrow of the femur of four thighs exposed to ultrasonic energy at a total output of 5 watts from generator 1 for a duration of two minutes at 10, 20, 40 and 100 per cent of the duty cycle were found to be 0.98, 1.98, 4.19 and 12.28 C. respectively in the cortex of the femur and 0.48, 1.04, 2.22 and 6.06 C. respectively in the bone marrow. When the rises in temperature produced in both cortex and bone marrow at 10, 20 and 40 per cent of the duty cycle were compared with the rises produced by continuous ultrasonic energy, they were found to approximate 8, 17 and 35 per cent of the rises in temperature that occurred when continuous ultrasonic en-

ergy was used. The average rise in temperature of the cortex and marrow of the femur in each of these four thighs exposed to ultrasonic energy is shown in table 1, femurs 1 to 4.

In one thigh the needle thermocouple intended for the cortex penetrated the cortex and emerged in the soft tissue. Thus it was possible to measure the rise in temperature of tissues on both sides of the cortex. The rises in temperature of the soft tissue lying between the source of ultrasonic energy and the cortex of the femur were 0.52, 1.02, 2.30 and 5.71 C. when exposed to 5 watts of total energy for two minutes at 10, 20, 40 and 100 per cent of the duty cycle respectively (table 1, femur 5). The rises in temperature of the bone marrow were similar to those previously recorded (table 1, femur 5). If it is assumed that the rise in temperature of the cortex is also similar to those rises previously recorded, then this experiment has shown conclusively that bone is heated selectively by ultrasound, for the tissues adjacent to both sides of the bone cortex were significantly cooler than the cortex itself.

Figure 4 is a graphic representation of the rises in temperature produced in the cortex of the bone of five thighs containing one needle thermocouple when they were exposed to total outputs of 5 and 10 watts ultrasonic energy using both stationary and stroking technics. Generator 1 was used in these observations. The records of a typical experiment were chosen and plotted on this graph. Maximal and minimal rises in temperature obtained during these five experiments are also indicated. The typical rises shown closely approximate the mean

Table 1: Average Rises of Temperature (degrees Centigrade) in Femurs of Anesthetized Dogs Exposed to 5 Watts of Ultrasonic Energy for Two Minutes at Various Percentages of the Duty Cycle.

| Femur | Runs | Duty cycle, per cent | | | | | | | |
|-------|------|----------------------|-------------|------|------|------|-------------|------|------|
| | | 100 | 40 | 20 | 10 | 100 | 40 | 20 | 10 |
| | | | Bone cortex | | | | Bone marrow | | |
| 1 | 10 | 13.19 | 3.88 | 1.72 | 0.90 | 5.61 | 1.78 | 0.78 | 0.35 |
| 2 | 11 | 12.14 | 4.15 | 1.90 | 0.75 | 5.93 | 1.95 | 0.90 | 0.38 |
| 3 | 10 | 11.78 | 4.55 | 2.22 | 1.15 | 6.24 | 2.82 | 1.42 | 0.68 |
| 4 | 13 | 12.00 | 4.18 | 2.07 | 1.10 | 6.45 | 2.35 | 1.07 | 0.52 |
| | | | Soft tissue | | | | Bone marrow | | |
| 5 | 10 | 5.71 | 2.30 | 1.02 | 0.52 | 7.15 | 2.38 | 1.12 | 0.50 |

risers in temperature obtained for each set of observations.

Immediately after the ultrasonic energy was turned off, the temperature of the tissues began to decline toward the control temperature. In three thighs, temperatures were measured two and four minutes after exposure to ultrasound when stroking, stationary pulsed, and stationary continuous techniques were employed. The fall in temperature of the cortex two and four minutes after exposure to ultrasound was divided by the maximal rise in temperature of the cortex obtained during the same run and was thereby expressed as a percentage of the maximal rise in temperature. It was

found from these calculations that the temperature of the femoral cortex fell an average of 75.5 per cent of the peak rise two minutes after a two-minute exposure to 5 or 10 watts of ultrasonic energy by stationary continuous and stationary pulsed application. However, the temperature fell only 47.6 per cent two minutes after a ten-minute exposure to a stroking application of ultrasonic energy. Four minutes after exposure to 5 and 10 watts of ultrasonic energy by stationary continuous and stationary pulsed techniques, the temperature had fallen 87.4 per cent of the maximal rise. But the fall in temperature four minutes following a stroking application was only 63 per cent.

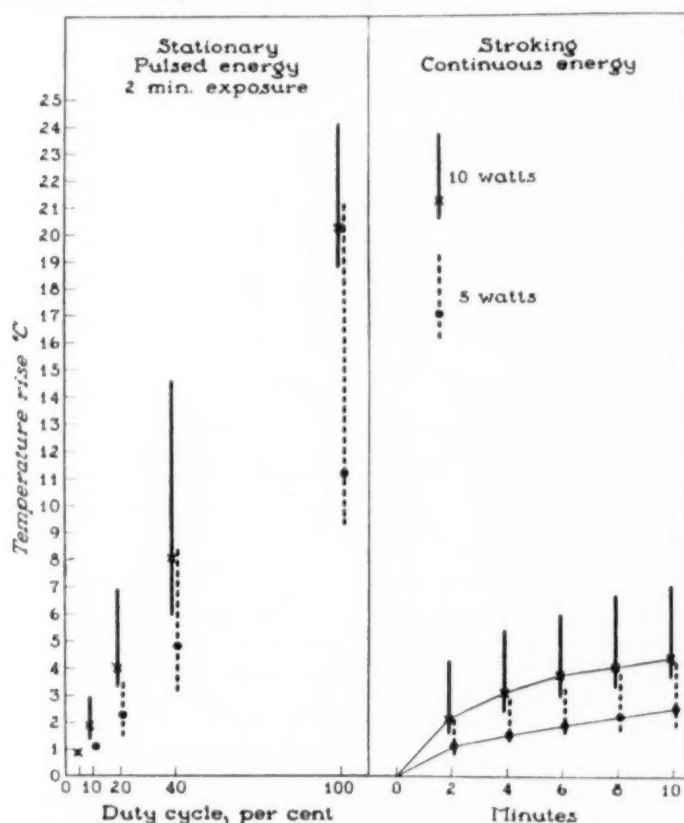


Fig. 4—Graphic representation of the rises of temperature produced in the femoral cortex of 5 anesthetized dogs exposed to 5 and 10 watts of ultrasonic energy from generator 1 by stationary and stroking techniques. The maximal and minimal variations in the rises are shown. The record of a typical experiment, which closely approximates the mean, is indicated by points plotted on the range of rises in temperature.

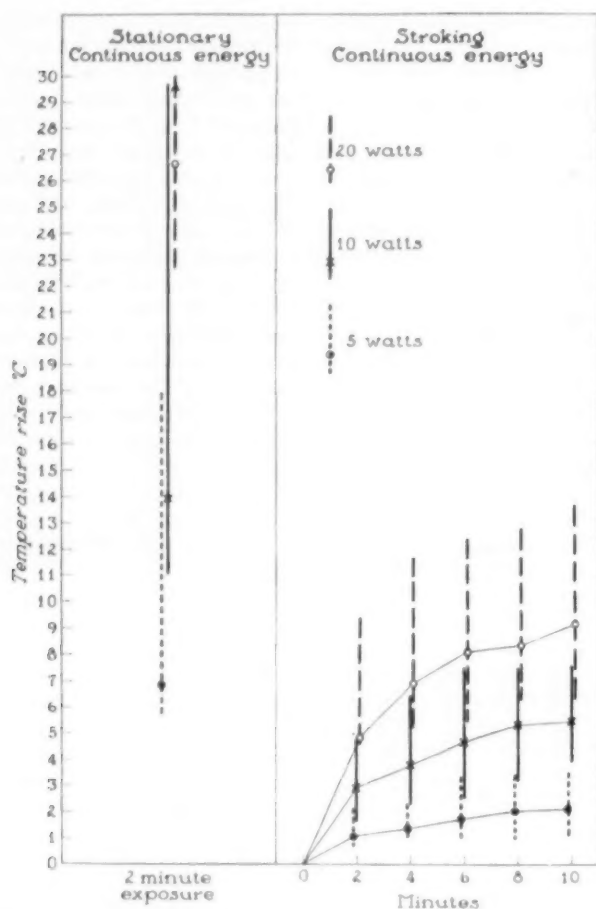


Fig. 5—Graphic representation of the rise in temperature of the femoral cortex of anesthetized dogs exposed to 5, 10 and 20 watts of ultrasonic energy from generator 2 by stationary and stroking technics. The maximal and minimal variations in the rises of temperature are shown. The record of a typical experiment, which closely approximates the mean, is plotted on the range of rises in temperature.

The typical rises in temperature of the cortex of the femur when exposed to ultrasonic energy from generator 2 are shown in figure 5. Maximal and minimal variations again are indicated.

The actual records obtained from a typical experiment performed with generator 3 are shown in figures 6, 7 and 8, with the rises in temperature recorded in a series of experiments indicated on them.

Exposure of the thigh to ultrasonic energy in no way altered the rectal temperature of the dog.

Comment

For the purposes of this study, rises of temperature in tissues provided a convenient and reliable measure of ultrasonic effect. Observations were limited to the heating effect of ultrasound. It should be mentioned, however, that ultrasound may cause nonthermal effects¹⁸. These effects, excluding cavitation, are minor and are mentioned merely to remind the reader of their existence. Cavitation has not been observed in tissues exposed to ultrasound at the intensities recommended for therapy.

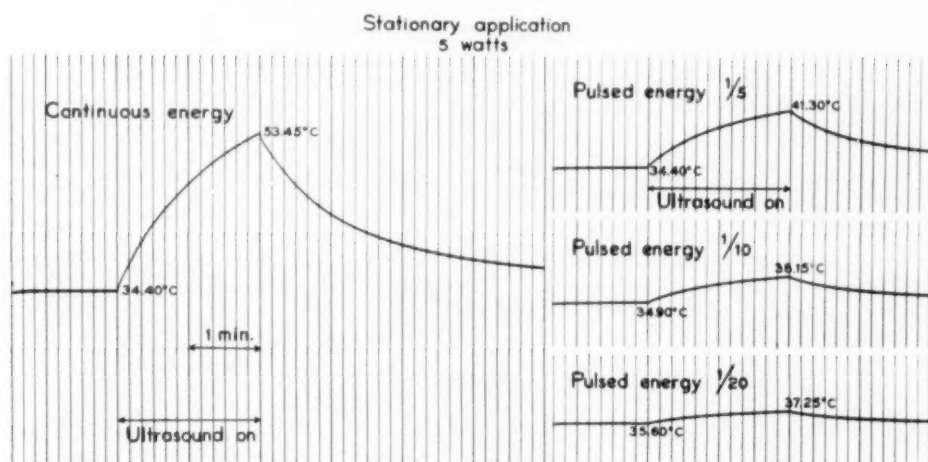


Fig. 6—Actual record from a typical experiment showing the rise in temperature of the femoral cortex of an anesthetized dog exposed to 5 watts of ultrasonic energy from generator 3 by stationary continuous and pulsed technics.

It is obvious that stationary application of continuous ultrasonic energy must be employed with extreme caution. The dangerously high temperatures developed under these conditions may be avoided by suitable pulsing of the energy. Since accurate centering of the tissue in the ultrasonic field is required for reliable therapy when the sound head remains stationary, it is difficult to understand how one can apply ultrasound

accurately to a specified area through stationary technic, unless either he has a sound probe inserted for guidance or he has developed another reliable technic for directing the ultrasound accurately at the desired target.

The stroking application of ultrasonic energy was the most satisfactory means of controlling the heating effect of ultrasound. By this method one is able to irradiate the desired tissue more easily

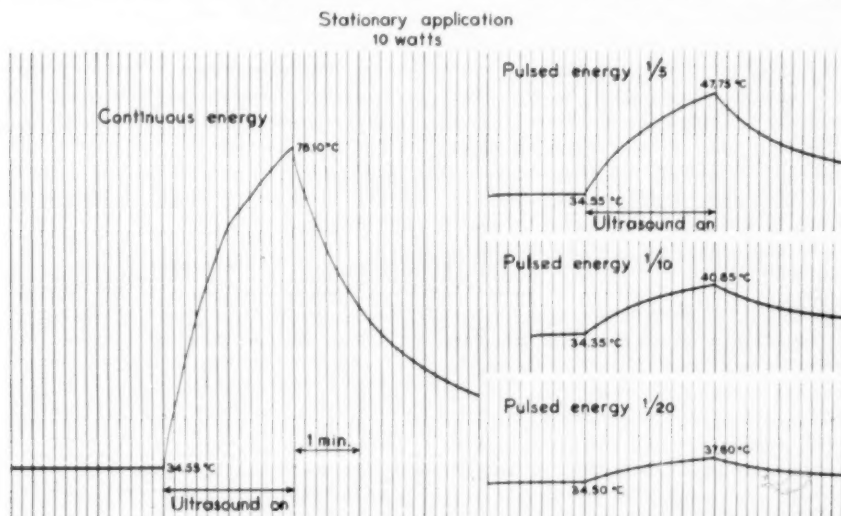


Fig. 7—Actual record from a typical experiment showing the rise in temperature of the femoral cortex of an anesthetized dog exposed to 10 watts of ultrasonic energy from generator 3 by stationary continuous and pulsed technics.

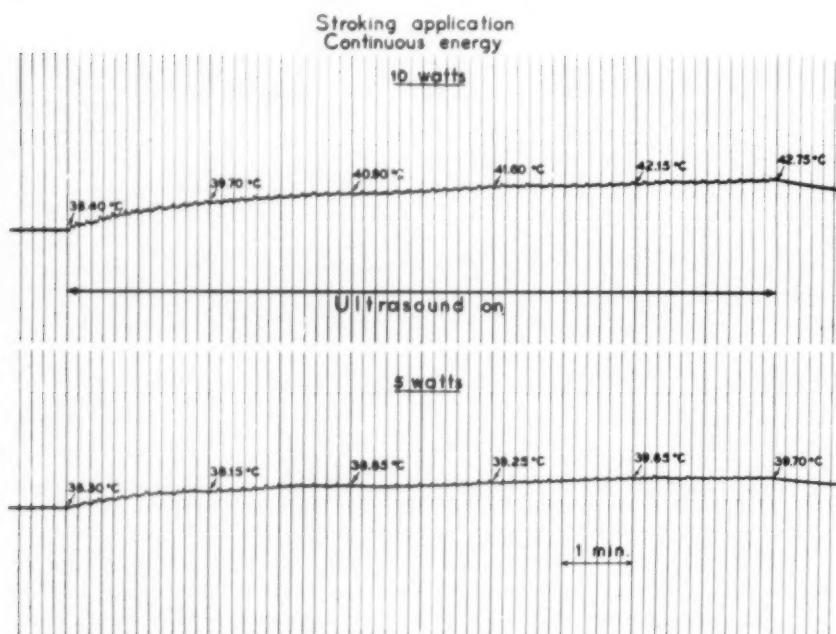


Fig. 8—Actual record from a typical experiment showing the rise in temperature of the femoral cortex of an anesthetized dog exposed to 5 and 10 watts of ultrasonic energy from generator 3 by stroking technic.

since the sound head is moved over the area to be irradiated thereby producing the desired heating without having to center the sound head accurately over the given tissue as required in stationary (continuous or pulsed) applications. By use of a stroking technic, a larger area of bone was heated to therapeutic levels for longer periods than by the other technics of application which we studied. While stroking the sound head over the tissue to be treated, one must be careful not to hesitate over any one spot; for then the heating at that spot is excessive, as in stationary application of continuous energy.

Summary

The femurs of anesthetized adult dogs were exposed to ultrasonic energy by various technics of application. In one technic, the source of ultrasound was held stationary and the energy was either continuous or pulsed; in another technic, the source of ultrasound was moved back and forth over the desired area using only continuous energy. The temperatures of the cortex and marrow

of the femur were measured by means of thermocouples. It was found that accurate positioning of the part to be exposed in the ultrasonic field was essential to obtain reproducible results. Extremely high temperatures were produced when the sound head was stationary and the energy was continuous. Pulsed energy provided a means of controlling the rise in temperature rather well. Stroking application of the continuously emitted ultrasonic energy provided the best control of the heating effect with the widest margin of safety.

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Discussion

Dr. Paul A. Nelson (Cleveland, Ohio): Drs. Bender, Herrick and Krusen are to be commended for their thorough and carefully conducted study of the heating effects of continuous and pulsed, stationary and moving applications of ultrasonic energy. We must accumulate basic information of the sort that is obtained from such investigations if we are to utilize ultrasound rationally in the treatment of patients. I should like to ask Dr. Bender two questions: (1) does pulsed ultrasonic energy have any practical advantage for example, in margin of safety afforded, over the much simpler method of utilizing the stroking technic with continuous ultrasound? (2) does the author know whether pulsed ultrasound is utilized clinically to any considerable extent in Europe today?

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Board Elects New Officers



Robert L. Bennett, Chairman



Earl C. Elkins, Secretary-Treasurer

At the annual meeting of the American Board of Physical Medicine and Rehabilitation, held in New York City, June 1, 1953, Dr. Robert L. Bennett of Warm Springs, Ga., was elected Chairman of the Board. Dr. Bennett was recently appointed Medical Director of the Georgia Warm Springs Foundation. He is also Professor of Physical Medicine at Emory University School of Medi-

cine; past president of the American Congress of Physical Medicine and Rehabilitation and is serving on the Board of the American Registry of Physical Therapists.

Dr. William H. Schmidt of Philadelphia, was re-elected Vice-Chairman of the Board. Dr. Schmidt is Associate Professor of Physical Medicine at Jefferson Medical College; Director, Department

American Board of Physical Medicine and Rehabilitation Officers and Members 1953



Standing, left to right — W. Bierman, O. L. Huddleston, E. C. Elkins, A. B. C. Knudson, W. M. Solomon, A. L. Watkins, D. A. Covalt. Seated, left to right — W. H. Schmidt, R. L. Bennett, K. G. Hansson, W. J. Zeitor.

of Physical Medicine, Jefferson Hospital, and Director, Department of Radiology, St. Mary's Hospital, Philadelphia. He is past president of the American Congress and American Society of Physical Medicine and Rehabilitation and past vice-president of the Academy of Physical Medicine.

Dr. Earl C. Elkins of Rochester, Minn., was elected Secretary-Treasurer of the Board. Dr. Elkins is Assistant Professor of Physical Medicine and Rehabilitation at the Mayo Clinic. He is Chairman of the Advisory Committee on Education of the Council on Physical Medicine and Rehabilitation; past

president of the American Congress of Physical Medicine and Rehabilitation, and Vice-Chairman of the Board of the American Registry of Physical Therapists.

The other members serving on the American Board of Physical Medicine and Rehabilitation are: Doctors William Bierman, New York City; Donald A. Covalt, New York City; Kristian G. Hanson, New York City; O. Leonard Huddleston, Santa Monica, Calif.; A.B.C. Knudson, Washington, D.C.; Walter M. Solomon, Cleveland; Arthur L. Watkins, Boston, and Walter J. Zeiter, Cleveland.

MEDICAL NEWS

Members are invited to send to this office items of news of general interest, for example, those relating to society activities, new hospitals, education, etc. Programs should be received at least six weeks before the date of meeting.

PERSONALS

Joseph G. Benton, New York City, is one of the co-authors of the article "Correlation of Ballistocardiogram with Work Performance and Energy Cost for Guidance in Rehabilitation of Cardiac Patients" which was published in a recent issue of *CIRCULATION*.—At the Lehigh Valley Regional Fracture Meeting held at St. Luke's Hospital, Bethlehem, Pa., **Josephine J. Buchanan**, Washington, D.C., spoke on "Hospital Rehabilitation Techniques."—**Anthony C. Cipollaro**, New York City, was chairman of the Annual Residents' Meeting of the New York Academy of Medicine, Section of Dermatology and Syphilis last May. Dr. Cipollaro is also serving as a member of the Editorial Board of the *ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY*.—**Michael Dacso**, New York City, will speak at the annual meeting of the Division on Welfare of the Aged, Welfare and Health Council of New York City, at the Hotel Biltmore. He is author of the article "Clinical Problems in Geriatrics" appearing in a recent issue of *GERIATRICS*.—**George Deaver**, New York City, visited Detroit and lectured at the

Visiting Nurse Association of Michigan. He also conducted a cerebral palsy clinic in Windsor, Ont., Canada. Dr. Deaver will visit the Crocheted Mountain Rehabilitation Center in New Hampshire once each month as consultant.—**Samuel Feuer**, New York City, is one of the co-authors of the article "A Realistic Approach to Rehabilitation" appearing in the June 1953 issue of *THE PHYSICAL THERAPY REVIEW*.—The article "The Use of Electromyography in the Study of Clinical Kinesiology of the Upper Extremity" appearing in a recent issue of the *AMERICAN JOURNAL OF PHYSICAL MEDICINE* was co-authored by **Gerald Hirschberg**, Oakland, Calif., and **Michael Dacso**, New York City.

Earl F. Hoerner, formerly of North Bergen, N.J., has been appointed director of the newly created Department of Physical Medicine and Rehabilitation at the University of Louisville School of Medicine, Kentucky.—**Frank H. Krusen**, Rochester, Minn., was a guest speaker at the Minnesota Welfare Conference.—The scientific exhibit "Creative Expressions of a Reintegrating Personality" was sponsored by **Lt. Col. John H. Kuitert**, Washington, D.C., at the 109th annual meet-

ing of the American Psychiatric Association.

George Deaver and **Howard Rusk**, New York City, participated in a conference on the status of multiple sclerosis under the sponsorship of the New York Academy of Science and the National Multiple Sclerosis Society on April 18.—**Eugene Moskowitz**, White Plains, N.Y., attended a conference of administrators of rehabilitation centers, sponsored by the National Society for Crippled Children and Adults and the Office of Vocational Rehabilitation of the Federal Security Agency.—**Louis B. Newman**, Hines, Ill., spoke at the Memorial Hospital, St. Joseph, Mich., on May 26. Dr. Newman gave an illustrated lecture on "The Value of Physical Medicine and Rehabilitation."—**Oscar B. Nugent**, Chicago, was one of the guest speakers at the seminar sponsored by the Alumni Association of the Medical Department of the University of Alabama.

Ray Piaskoski, Wood, Wis., has been appointed to serve on the committee Commission on State Departments of the State Medical Society of Wisconsin for 1953-54.—**Howard F. Polley**, Rochester, Minn., is serving on the Olmsted County Medical Advisory Committee of the Minnesota State Medical Association.—**Lt. Col. Raoul C. Psaki**, San Francisco, Calif., participated in the Postgraduate Course on The Recent Advances in Medicine of Military Importance, held at Walter Reed Army Medical Center, Washington, D.C., on May 6. His topic was "The Current Status of Ancillary Treatment of Peripheral Nerve Injuries."—**Stanley F. Radzynski**, Wadsworth, Kan., presented a demonstration of a Medical Rehabilitation Board in action before a meeting of the Kansas City Chapter of the American Association of Medical Social Workers at the Veterans Administration Center on May 18. Dr. Radzynski is Chief of Physical Medicine and Rehabilitation at the Wadsworth VA Center.—**Donald L. Rose**, Kansas City, Kan., discussed "Electrodiagnosis" before a meeting of the Missouri Chapter of the American Physical Therapy Association last April.—En route to Korea, **Howard A. Rusk**, New York City, visited Hawaii to assist the rehabilitation committee of the Oahu Health Council in developing plans for a rehabilitation facility. Dr. Rusk was the principal speaker at the May meeting of the New England Society of Physical Medicine. His topic was "Rehabilitation."

Harry H. Samberg, Des Moines, Iowa, addressed the Southwest Iowa Medical Society at Creston, Iowa on May 13. His subject was "Some Aspects of Physical Medicine and Rehabilitation."—**Odon F. von Werssowetz**, Nashville, Tenn., addressed a staff conference at the VA Hospital, Oteen, N.C., on March 19. His subject was "Flexion Exercises in Management of Low Back Disorders." Dr. von Werssowetz was guest

speaker at a staff meeting of the Cumberland Medical Center at Crossville, Tenn., on May 7; on May 8, he read a paper "Physical Medicine in Some Musculoskeletal Disorders" at the monthly meeting of the Faculty of Medicine, Meharry Medical College, Nashville, Tenn.—**Robert Wray**, Cedar Rapids, Iowa, was elected secretary of the Iowa Orthopedic Society at its annual business meeting.

GEORGIA WARM SPRINGS FOUNDATION HAS NEW MEDICAL DIRECTOR

Mr. Basil O'Connor, President of Georgia Warm Springs Foundation, announced the appointment of Dr. Robert L. Bennett as Medical Director of that institution. Dr. Bennett has been the Assistant Medical Director in charge of Physical Medicine at Warm Springs for many years.

Drs. C. E. Irwin, H. S. Raper and Thomas Gucker, III, will continue in their present positions of Director of Orthopedic Surgery, Director of Internal Medicine, and Assistant Director of Orthopedic Surgery, respectively, and Dr. Harry W. Mims will serve as Assistant Director of Physical Medicine and Rehabilitation.

Mr. O'Connor further announced that the increasing demands for patient care, plus the ability of most communities to handle the after-effects of poliomyelitis, have made it advisable to provide an evaluation service for physicians referring patients to Warm Springs. This clinic-type service is designed to assist the local physician in the more complete care of the patients. Patients admitted for this service will be examined by the Departments of Physical Medicine, Orthopedic Surgery, Internal Medicine, Psychology, Vocational Guidance and Social Service.

The length of time necessary for an adequate evaluation will depend on the problems encountered in each case. Upon the request of the referring physician, the patient may be fitted with necessary supportive, assistive or adaptive apparatus, and home routine shown the patient and/or his family. The results of all tests, together with a detailed outline of suggested further care, will be sent to the referring physician.

Georgia Warm Springs Foundation will continue to treat polio patients through the in-patient services of Physical Medicine and Orthopedic Surgery. Patients will be carefully selected to provide a wide variety of problems for professional training and clinical research.

The facilities of Warm Springs will still be devoted primarily to the care of the after-effects of poliomyelitis, although other problems resulting in physical handicap re-

quiring similar rehabilitative measures will be studied.

AMERICAN GERIATRICS MEETING

Congress members participated in the tenth annual meeting of the American Geriatrics Society, held at the Hotel Commodore, New York City, last May. Papers for the program were presented by Samuel G. Feuer, "A Realistic Approach to Rehabilitation in Geriatrics"; Hans J. Behrend, "Ultrasonic Therapy in Geriatrics," and James L. McCartney, "The Involutional and Senile Psychoses."

DR. GLASSER IS GUEST SPEAKER

At the monthly meeting of the Cleveland Society of Physical Medicine and Rehabilitation, Dr. Otto Glasser spoke on recent advances in bio-physics in relation to physical medicine and rehabilitation. Dr. Glasser is Director of Bio-Physics at the Cleveland Clinic Foundation.

LAENNEC ESSAY CONTEST

The Laennec Society of Philadelphia awards an annual prize of \$200 for the best paper submitted in any field related to diseases of the chest. This prize is open to undergraduates, interns, residents, or fellows throughout the United States. The work should be original and not a review of literature. The Society does not reserve the right of publication, but requests that the prize-winning paper be presented at one of its regular scientific meetings. Five copies of the manuscript, double-spaced, should be in the hands of the secretary of the Society, Dr. Charles M. Norris, 3401 N. Broad St., Philadelphia 40, by October 1.

NEW RESIDENCY PROGRAM

Manhattan State Hospital, Ward's Island, New York, announces a three year residency program to fulfill the requirements of the American Board of Psychiatry and Neurology. Information may be obtained by writing to Dr. John H. Travis, Director, Manhattan State Hospital.

WARM SPRINGS ADDS REHABILITATION FACILITY

A new rehabilitation building for poliomyelitis patients will be erected at Georgia Warm Springs. The building, to be named Roosevelt Hall in honor of the late president, will be ready for use at the end of the year. Facilities for patient therapy will be located on the first floor of the new structure. The second floor will house an auditorium for

staff meetings, conferences, and film showings for patients and personnel.

AMA CLEARS TV FILMS

The AMA Committee on Medical Motion Pictures has announced the publication of a supplement to the list of health education motion pictures cleared for use on television. This supplement lists 38 motion pictures which have been cleared for television use since publication of the original list in 1951. Copies may be obtained by writing to the Committee, 535 N. Dearborn St., Chicago 10.

UNITED CEREBRAL PALSY APPOINTS MEDICAL DIRECTOR

Dr. Glidden L. Brooks, associate professor of pediatrics, University of Pittsburgh School of Medicine, has been appointed the first full-time medical director of United Cerebral Palsy, for which he has been serving as medical consultant.

TB SYMPOSIUM AT SARANAC LAKE

The Second Annual Tuberculosis Symposium for general practitioners will be held in Saranac Lake, New York, from July 13-17, 1953. It is approved by the American Academy of General Practice for 26 hours of General Practice for 26 hours of formal credit for its members. The symposium will be held in various sanatoria and laboratories in the Saranac Lake area. The speakers and panel members at the tuberculosis symposium will include physicians, surgeons, and scientists from Saranac Lake and surrounding areas.

Complete information concerning this program can be obtained by writing Dr. Richard P. Bellaire, Tuberculosis Symposium for General Practitioners, PO Box 707, Saranac Lake, N.Y.

DR. TOBIS APPOINTED CONSULTANT

The Bureau for Handicapped Children of the New York City Department of Health announced the appointment of Dr. Jerome S. Tobis as consultant in Physical Medicine and Rehabilitation. Dr. Tobis is Professor and Chairman of the Department of Physical Medicine and Rehabilitation of the New York Medical College, and Director of the Departments of Physical Medicine and Rehabilitation at the Flower-Fifth Avenue Hospitals, the Metropolitan Hospital, and the Bird S. Coler Hospital. The appointment of Dr. Tobis as consultant will mean that increasing emphasis will be placed in the program of the Bureau for Handicapped Children for strengthening the rehabilitation services in New York City.

COMMISSION ON GERIATRICS

The Medical Society of the State of Pennsylvania announces the establishment of a commission on geriatrics, which will have to do with the medical aspects of care of the aged and also will serve in an advisory capacity to the state legislature and other lay groups. Dr. B. Franklin of Palmerton, Pa., is serving as Chairman.

MEDICAL COURSE AT OAK RIDGE

The Special Training Division of the Oak Ridge Institute of Nuclear Studies has scheduled an advanced course covering the clinical applications of radioisotopes to be held from September 14-25, 1953. This advanced course, part of the continuing series offered by the Institute, is the second to be concerned with the medical uses of isotopes.

Participation will be limited essentially to those physicians who have had clinical experience with radioisotopes. The course will consist of lectures, clinics, and exhibits of equipment. Speakers have been selected from among the leaders in the specific fields of interest.

Subjects to be discussed in the course include tumor localization, circulatory volumes and outputs, fluid and electrolyte spaces, therapy of blood diseases, theory of radiation dosimetry, radioactivity measurement, gold-198 and other colloids, interstitial and surface applications, teletherapy, iodine-131 in diagnosis and therapy, and external counting.

Additional information and application blanks may be obtained from the Special Training Division of the Institute, PO Box 117, Oak Ridge, Tenn.

APPARATUS ACCEPTED

Tomac Iceless Oxygenaire, Model E.—Manufactured by the American Hospital Supply Corporation, 2020 Ridge Ave., Evanston, Ill. It is an apparatus for administering oxygen to a patient in bed; consisting of two principal parts, a tent or canopy of transparent material supported over the bed and a cabinet housing the electrically driven machinery for circulating and cooling the oxygen. Oxygen is supplied from a tank of the compressed gas, and electric supply is alternating current at 60 cycles and 115 volts. The Council on Physical Medicine and Rehabilitation voted to include the Oxygenaire in its apparatus accepted list.

KANSAS UNIVERSITY RECEIVES RESEARCH GRANT

A two-year grant of \$8,316 has been awarded the University of Kansas School of Medicine for research in circulatory system disease by the Life Insurance Medical Re-

search Fund. Dr. Kenneth E. Jochim, assistant dean of the school and chairman of the department of physiology, will direct the study.

CHICAGO SOCIETY OFFICERS NAMED

At the May meeting of the Chicago Society of Physical Medicine and Rehabilitation, the following officers were elected: President, Milton G. Schmitt; Vice-President, Irvin F. Hummon, and Secretary-Treasurer, Joseph Koczur.

MILWAUKEE ACADEMY OF MEDICINE SPONSORS ESSAY CONTEST

Two essay contests are being sponsored by the Milwaukee Academy of Medicine—the Horace Manchester Brown Memorial Prize Essay Contest and the Rogers Memorial Prize Essay Contest, the latter founded by the Rogers Memorial Sanitarium of Oconomowoc.

In the Horace Manchester Brown Memorial Contest, the Academy offers prizes of \$100 and \$50 for the two best scientific essays in any field of medicine, surgery, or the allied specialties. Prizes of \$200 and \$100 will be offered in the Rogers Memorial Contest, for the two most meritorious studies in the fields of neurology, psychiatry, and psychosomatic medicine. For complete details, write Milwaukee Academy of Medicine, 561 N. Fifteenth St., Milwaukee 3, Wis.

THE STORY OF THE "MAGIC FLUID"

Of all the magic gadgets in the past, including the famed lamp of Aladdin, there are none that compare with blood . . . the "Magic Fluid." Despite the wonderful gifts that these magic-makers were reported to bestow, none could boast of giving life, for only the wonder-maker blood can restore ebbing life.

Stone-age man knew about the importance of blood for he wrote about it with crude carvings on the stone walls in the depths of his caves. On every page of history there is some notation about blood. Man has never lost his interest in blood from the first dawn of light in the world. Progress of knowledge through the centuries was tragically slow. Not until 1942 did large scale use of blood become a reality. Step-by-step through World War II blood application techniques were proven through thousands upon thousands of blood transfusions to save lives of wounded fighting men.

Another major advance was the discovery that this magic fluid contained Gamma Globulin for use in fighting disease. Gamma Globulin is now being made in millions of doses to prevent measles, infectious hepatitis

and the paralytic effects of polio. Constant intensive research promises even far greater discoveries in the struggle against disease and death.

You are lucky to be living in the age that discovered the magic of blood. It is a gift to help make you live longer . . . better. The "Magic Fluid" supply depends on you. You can help keep the fountain of blood flowing . . . with all of its life-saving magic. Call your local Red Cross Community or Armed Forces Blood Donor Center today to schedule your contribution to the supply of this "Magic Fluid."

FIRST NORTHWEST SECTION MEETING HELD

The first Clinical Rehabilitation Meeting of the Northwest Section of the American Congress of Physical Medicine and Rehabilitation was held at Portland, Ore., May 8 and 9, at the Portland Veterans Administration Hospital and the Portland Rehabilitation Center.

Dr. J. Gordon Spendlove gave the address of welcome. At the banquet, in the Multnomah Hotel, Dr. Arthur C. Jones was guest speaker. His topic was "Rehabilitation and Physical Medicine in Europe." Among others, speakers and their subjects were: Everill W. Fowlks, "Physical Medicine Rehabilitation Today"; Harold Elger, "Peripheral Vascular Problems"; S. W. Heath, Jr., "Mechanics of Locomotion"; Major J. Donald Amos, "Present Status of P.M.R. in the Army"; Arthur P. Martini, "Private Practitioner's Viewpoint as to Physical Medicine and Rehabilitation"; John Morgan, "Rehabilitation of Psychosomatic Disorders"; L. K. Shumaker, "Interest Testing of Patients"; M. N. Brown, "M. F. Component in Occupation"; C. F. Feiker and H. E. Palmer, "What State Rehabilitation Has to Offer to the Handicapped Patient"; M. S. McDonald, "The Need of Rehabilitation of Tuberculosis Patients"; W. Jessup and H. Becker, "The Role of Recreational Therapy"; Donald M. Wilson, "Speech Defects," and Mercedes Weiss, "The Need of Pre- and Post-operative Chest Exercises."

According to the secretary of the section, the next meeting of the Northwest Section will be held in Seattle, Wash.

UNITED NATIONS DOCUMENT RELEASED

A new United Nations Document entitled "Modern Methods of Rehabilitation of the Adult Disabled" has been released. Information relative to this publication may be had by writing International Society for the Welfare of Cripples, 127 E. 52nd St., New York 22, N.Y.

SOCIETY HOLDS ELECTION

At a combined meeting of the Pennsylvania Academy of Physical Medicine and Rehabilitation and the New Jersey Society of Physical Medicine held at Philadelphia General Hospital on May 16, the following officers were elected: President, Albert A. Martucci of Philadelphia; Vice-President, Francis J. Bonner of Ardmore, and Secretary-Treasurer, J. Murl Johnston of Pittsburgh.

The first fall meeting will be held in conjunction with the New Jersey group at Allentown, Pa., on Saturday, October 17.

FELLOWSHIP IN ALLERGY

Northwestern University Medical School, Chicago, offers a fellowship in allergy designed to provide training and experience for specialization. This fellowship is approved by the AMA Council on Medical Education and Hospitals, is accredited by the Board of Internal Medicine for credit toward the formal training requirements of the board, and is approved for training by the Sub-Specialty Board of Allergy. Annual stipend is \$2,500 to \$3,600. Inquiries should be addressed to Dr. Samuel M. Feinberg, Northwestern University Medical School, 303 E. Chicago Ave., Chicago 11.

REHABILITATION EXERCISES AT CRILE

Crile Veterans Administration Hospital held its annual Rehabilitation Exercises for those patients who have attained a high degree of rehabilitation in spite of their disabilities. In the past, the emphasis has been on the education phase of rehabilitation. So far, over 750 diplomas have been given to patients, who as part of their treatment and rehabilitation, have completed the requirements of high school accreditation.

A Rehabilitation Incentive Awards Committee was appointed with Dr. Harry T. Zankel, Chief, Physical Medicine Rehabilitation as Chairman, and the Chiefs of Medical, Surgical, and Neuropsychiatric Services, as well as the Chief, Professional Services as members. Out of seven nominated patients, three were selected to receive the first, second and third Rehabilitation Incentive Awards of \$100, \$50, and \$25 respectively. Dr. John Schoff Millis, President of Western Reserve University was the principal speaker.

It is felt that this program offers added incentive to patients to make a stronger effort toward their rehabilitation.

CANCER SOCIETY FELLOWSHIPS

The American Cancer Society offers fellowships in biometry and statistical epidemiology at the Graduate School of Yale University, New Haven, Conn. Postdoctoral

fellowships are open to U.S. citizens who possess a doctorate in medicine, philosophy, or science. They are intended for young men and women embarking on an investigative career, and also for more mature investigators desiring to extend their fields of competence. Fellows already possessing the degree of doctor of medicine may become candidates for the degree of doctor of philosophy. Fellowships are awarded for one year and may be renewed for two additional years. Fellows will be expected to carry out research in a field related to cancer and will be given training in biometry, biostatistics, and such other subjects as the university may deem necessary. Stipends will range from \$3,000 to \$4,000, depending on individual circumstances such as marital status and number of dependents. Travel expenses for one round trip from home to New Haven will be provided at the rate of five cents per mile. Results of work carried out by a fellow will be available to the public through the approved scientific channels without restriction. For information write to Edward C. Hammond, Sc.D., Director of Graduate Studies in Biometry, 51 Hillhouse Ave., Yale University, New Haven, Conn.

SEMINAR AT NEW YORK UNIVERSITY

A four weeks' course in "Advanced Physical Rehabilitation Methods for Physical Therapists" will be conducted at New York University-Bellevue Medical Center. It is scheduled for the following dates: November 23 through December 18, 1953; February 1 through February 26, 1954, and May 2 through May 29, 1954. Also offered is a three week's "Seminar in Physical Rehabilitation Methods for Nurses" scheduled for October 26 through November 13, 1953; January 4 through January 22, 1954, and April 5 through April 24, 1954.

Applications and requests for further information should be submitted to Miss Edith

Buchwald, Director of Rehabilitation Courses for Physical Therapists, Institute of Physical Medicine and Rehabilitation, 400 E. 34th St., New York, N.Y.

MID-WESTERN SECTION

The Mid-Western Section meeting of the American Congress of Physical Medicine and Rehabilitation was held at Minneapolis on May 1. Dr. Miland E. Knapp of Minneapolis served as chairman. Dr. Gordon M. Martin of Rochester, Minn., acted as moderator of a round table discussion on poliomyelitis. Papers presented were: Robert W. Newman, "Recurring Dislocation of the Shoulder—A Suggested Plan of Conservative Management"; Harry J. Bugel, "The Use of the Training Leg in Ambulation of Amputees"; Norman Mitchell, "Traumatic Transverse Myelitis—A Clinical and Statistical Summary of the First Five Years of Operation of a Paraplegic Center"; Frederic J. Kottke, "The Measurement of Range of Motion in the Hip," and William D. Paul, "Rheumatoid Arthritis." A scientific film entitled "The Relief of Muscle Spasticity in the Chronically Ill Neurological Patient by Blocking Trigger Points," was presented by Harry J. Bugel.

DEATH

We regret to announce the death of Dr. Alfred J. M. Treacy of Philadelphia on June 7. Dr. Treacy received his medical degree from Temple University Medical School in 1915. During World War I, he served in the Navy Medical Corps. In 1919 he was made chief resident physician at St. Vincent's Hospital. Dr. Treacy was a Congress member and a diplomate of the American Board of Physical Medicine and Rehabilitation.

The Program of the

Thirty-First Annual Session

Palmer House, Aug. 31 - Sept. 4, 1953

appears on pages 445-455

EDITORIAL

ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION
OFFICIAL JOURNAL

American Congress of Physical Medicine and Rehabilitation
American Society of Physical Medicine and Rehabilitation



PHYSICAL MEDICINE AND REHABILITATION FOR THE CHRONICALLY ILL

Chronic illness and the medical problems of the aging are increasing enormously. More extensive general employment of physical, mental and social rehabilitation of the chronically ill is of the utmost importance. All of us must abandon an attitude of passive acceptance and neglect of chronic illness and substitute an attitude of optimism and vigorous dynamic rehabilitation of aged and chronically disabled persons. Physicians who are interested in physical medicine would do well to study carefully volume 2 of the extensive five volume report of the controversial "President's Commission on the Health Needs of the Nation."¹ While we cannot agree with many of the *recommendations* of the Commission, particularly with those recommending enormous increases in expenditure of federal funds, nevertheless, we believe that much of their *survey material* is factual and worthy of consideration.

All of us who are interested in improving the health of the citizens of this nation should put aside political considerations and study this report carefully, accepting that which is factual, logical and in the best interest of humanity and rejecting that which we do not consider to be good for our nation. This is the democratic way of

doing things in this land of free speech. The Commission has pointed out that "great backlogs of need have accumulated, and are being increased daily because insufficient attention has been paid to prevention of chronic disease and to rehabilitation of persons already disabled." The Commission has added, "the first principle is that the care of the chronically ill must be brought up to the standard of the care given to persons with acute illness. Shoddy facilities that are still being used for the care of the chronically ill and the shabby attitudes that still characterize a part of the general public and a rear guard of professional groups can no longer be tolerated."

Secondly, the Commission said "the care of the chronically ill is inseparable from general medical care"; that, "one weaves through the other." It was concluded, therefore, that "facilities and services for the chronically ill should be planned in close administrative, professional and geographical affiliation with general hospitals and, where feasible, with medical schools."

Thirdly, the Commission concluded "the needs of the chronically ill are so varied that facilities and services must be planned for the patient to move easily from home to hospital to nursing home

and vice versa." We subscribe most heartily to all three of these principles as laid down by the Commission.

Proper understanding and use of physical medicine and rehabilitation is of first importance in managing chronic illness and in limiting or postponing disability caused by chronic illness. The Commission has come to the conclusion that "a great need exists, for the establishment of departments of physical medicine and rehabilitation in general hospitals where patients with acute cases and with residual difficulties can achieve treatment. The average community hospital of 200 beds or more could profitably set aside perhaps 20% of its beds for convalescent and rehabilitation care." We fully concur in this important observation. The Commission has added also "it has been proved that a rehabilitation unit in a hospital can speed appreciably the discharge of patients. There is need for much wider use of these units in major hospitals." Once again, we agree and we should like to add that modern departments of physi-

cal medicine in general hospitals should always be provided with their own bed services. When the physiatrist has a number of beds assigned for his own use the work in physical medicine and rehabilitation progresses much more satisfactorily than is otherwise the case.

Finally, we can agree with the conclusion of the Commission that "adding to leadership in other aspects of medicine, a superiority in rehabilitation technics could bring new reserves of strength to this nation. Rehabilitation demands a highly developed form of cooperation and certain ethical ideals. Only in a democracy is there any future for growth and life, in which everyone, even the handicapped, has a chance. In helping the handicapped, we strengthen, not only the health, but also the moral fiber of the nation."

Reference

1. The President's Commission on the Health Needs of the Nation — "Building America's Health," Volumes 1 to 5. U. S. Government Printing Office, Washington 25, D. C.

The Chicago Society of Physical Medicine and Rehabilitation will be in charge of a Hospitality Center at the annual meeting.

This local committee, under the direction of Dr. I. F. Hummon and with the assistance of Drs. Joseph Koczur, Y. T. Oester, and Arthur Rodriquez, has planned a week of many interesting activities. Further details regarding this program may be had by writing Dr. I. F. Hummon, Radiation Center, Cook County Hospital, Chicago 12.

BE SURE to visit the CSPM&R Hospitality Center!

BOOK REVIEWS

The reviews here published have been prepared by competent authorities and do not necessarily represent the opinions of the American Congress of Physical Medicine and Rehabilitation and/or the American Society of Physical Medicine and Rehabilitation.

UNDERSTANDING OLD AGE. By *Jeanne G. Gilbert*, Ph.D. Diplomate in Clinical Psychology, American Board of Examiners in Professional Psychology; Lecturer in Psychology, Fordham University Graduate School and Long Island University Graduate School. Cloth. Price, \$5.00. Pp. 422. Ronald Press Company, 15 E. 26th St., New York 10, 1952.

Dr. Gilbert, a graduate of Cornell University, received her M. A. from the University of Pennsylvania and her Ph.D. in psychology at Columbia University. Her chief interests have been in child guidance and in senescence. The book is well documented and indexed. It is addressed particularly to psychologists, physicians, social workers, hospital employees, nurses, and institutional personnel. This well-organized text is divided into three parts and eleven chapters. Part I on "Normal Life Changes in Aging" contains chapters on general physical changes, altered endocrine functioning—sexual and psychosexual changes, emotional changes, intellectual changes, and changes in social relations. Part II on "Abnormal Life Changes in Aging" contains chapters on common disabling physical conditions, psychoneuroses, and psychoses. Finally, Part III on "Professional Work with the Aging" contains chapters on retarding decline and developing neglected potentials, professional work with the aging in the community, and professional work with the aging in institutions.

The author states pertinently that "the number of older persons is increasing in such proportions that work with the aging is rapidly becoming an integral part of many professions. The book treats of practical ways of dealing with the problems of older persons and of various types of professional work with the aging in the community and in institutions."

Here is still another book on geriatrics presented particularly from the standpoint of the psychologist. It will be of interest to physicians specializing in rehabilitation and will aid in the proper institutional management of the psychologic problems of older patients.

TODAY'S SCIENCE AND YOU. By *Lynn Poole*, Producer of Johns Hopkins TV Science Review. Cloth. Price, \$2.75. Pp. 208, with illustrations by *Jeanne Bendick*. McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 18; Aldwych House, Aldwych, London, W.C.2, 1952.

This little book admirably popularizes 16 aspects of modern science by adapting to print and sketch some of the television programs of the Johns Hopkins Science Review, the producer of which is also the author. The programs themselves admirably illustrate the sadly-neglected educational possibilities of television. As Clifton Utley pointed out some time ago, television, after making us a nation of illiterates, will serve as a fine medium for teaching the art of reading.

The book as it were freezes into print topics which the average high school student or interested adult should understand and appreciate. The presentations, unlike most "science writing," are characterized by dignity and restraint. It is perhaps unfortunate that the topics selected all involve some aspect of physics and engineering; that, from their nature, clinical and metabolic problems are excluded; and that the orientation centers around the Johns Hopkins, a worthy institution, but not the only one in the field of scientific technology. It is excellent waiting-room literature and an admirable gift-book for the youth of the land.

PHYSICAL MEDICINE ABSTRACTS

A New Type of Brace for the Rehabilitation of the Weakened Shoulder. William E. Gazeley, and Wyllys A. Dunham.

J. Bone & Joint Surg. 34-A:228 (Jan.) 1952.

An attempt was made to design a joint which would not only permit abduction (elevation) and adduction but would also assist in elevation, and at the same time would limit extension so that anterior subluxation of the shoulder joint would not occur. This has been accomplished by a type of universal joint in the axilla which permits abduction and adduction in various planes. Elevation of the arm to 90 degrees or higher is assisted by an adjustable spring in the hollow tubing of the axillary upright of the brace. The amount of resistance to lowering the arm may be varied by the size of the spring or by adjusting the tension of the spring at the lowest portion of the hollow tubing. While the use of the sling is limited to a patient in bed or in a chair, the brace permits a much greater range of activity. It may be worn for a much longer period of time and it may also be used in a greater number of routine activities. It is particularly useful for the ambulatory patient. Another advantage in its use is that the tension adjustment of the spring permits varying degrees of assistance to the abductor muscles as function of the shoulder joint returns.

Orthopedic Treatment of Acute and Subacute Poliomyelitis with Curare and Stretching. V. Raisman.

New York State J. Med. 52:1089 (May 1) 1952.

The aim of orthopedic treatment for poliomyelitis patients is to prevent deformities and to restore power to apparently paralyzed muscles. In the past, treatment was based on the principle that if a muscle were paralyzed, its normal opponent would overpull it and thus force the involved part into an attitude of deformity. To prevent this, casts and braces were used, but unfortunately deformi-

ties would develop despite such treatment. The treatment described in this article is based on Kenny's concept that the overpulling opponent of the paralyzed muscle was not normal, but was itself in a state of spasm or tightness. Her theories aroused much controversy but also stimulated research which confirmed, on an electro-myographic basis, the presence of irritability or spasm in the acute phase of poliomyelitis in most muscles of the body. The research also demonstrated that the hot packs which Kenny advocated did not lessen the spasm. Curare came into use by some investigators to lessen the irritability and permit restoration of muscles to their normal length by stretching. Curare is injected intramuscularly three times a day and, approximately three-quarters of an hour after the two daytime injections, a physical therapist stretches all the joints of the body through an ever-increasing range of movement. The patient is urged to exercise and to walk if possible, and when the orthopedic examination reveals complete relaxation, the curare is stopped but the stretchings are continued. Case reports are presented to show that with this method casts and braces are not needed. If completed relaxation can be obtained and maintained following discharge from the hospital, deformities do not develop. However, the stretching must be continued for a long time after the acute stage has ended.

Simplified Arm Sling. George J. Karfiol.

J.A.M.A. 150:686 (Oct. 18) 1952.

This describes a new type of arm sling, which is adaptable for use by children and adults and can be changed or adjusted as circumstances warrant, without interfering with the particular condition that originally called for the sling and can be made readily available in hospitals and private offices. The advantages of the sling are that it is easily applied and adjusted. There are no knots to make and no safety pins are necessary. It also is clean, unobtrusive, accessible in small packages, and lacks complicated additional straps, buckles or other gadgets.

PRELIMINARY PROGRAMS
of the
**AMERICAN CONGRESS OF PHYSICAL MEDICINE
AND REHABILITATION**

**AMERICAN SOCIETY OF PHYSICAL MEDICINE
AND REHABILITATION**

ANNUAL SESSIONS



Palmer House
CHICAGO
August 31–September 4, 1953



AMERICAN SOCIETY OF PHYSICAL MEDICINE AND REHABILITATION

Preliminary Program

EDUCATIONAL CONFERENCE MONDAY, August 31 — 10 A.M. Grand Ballroom

Presiding — EARL C. ELKINS, Rochester, Minn.
Assisting — ROBERT L. BENNETT, Warm Springs, Ga.

Rehabilitation Program and Objectives as Being Developed by National Institutes of Neurological Diseases and Blindness.

FREDERICK L. STONE, Ph.D. (by invitation), Chief, Extramural Programs, National Institutes of Neurological Diseases and Blindness, Bethesda, Md.

Method of AMA Residency Approval.

EDWARD H. LEVEROOS, M.D. (by invitation), Associate Secretary, Council on Medical Education and Hospitals, American Medical Association, Chicago.

Evaluation of Professional Competence in Physical Medicine and Rehabilitation.

CLAY d'A. GERKEN, Ph.D. (by invitation), Associate Professor of Psychology, State University of Iowa, Iowa City, Iowa.

Therapeutic Personnel Problems, Needs and Integration in Physical Medicine — A Report of the Findings of the Committee on Problems Affecting Physical and Occupational Therapists.

WILLIAM B. SNOW, M.D., New York, N. Y.

Title to be announced.

EARL C. ELKINS, M.D., Section on Physical Medicine and Rehabilitation, Mayo Clinic; Medical Director, School of Physical Therapy, Mayo Clinic, Rochester, Minn.

SCIENTIFIC SESSION MONDAY, August 31 — 2 P.M. Grand Ballroom

Presiding — DONALD L. ROSE, Kansas City, Kan.
Assisting — MURRAY FERDERBER, Pittsburgh.

A New Approach to the Treatment of Cervical Arthritis.

EVERILL W. FOWLKS, M.D., Chief, Physical Medicine Rehabilitation Service, Veterans Administration Hospital; Clinical Lecturer in Physical Medicine, University of Oregon School of Medicine, Portland, Ore.

Discussant: ARTHUR JONES, M.D., Portland, Ore.

Principles Underlying Prescription of Braces.

JESSIE WRIGHT, M.D., Pittsburgh.

Discussant: WILLIAM B. SNOW, M.D., New York, N. Y.

Neuro-physiological Basis of Neuromuscular Re-education.

O. LEONARD HUDDLESTON, M.D., Ph.D., Clinical Professor of Physical Medicine, University of Southern California, Los Angeles; Resident Medical Director, Kabat-Kaiser Institute for Neuromuscular Rehabilitation, Santa Monica, Calif.

Discussant: ARTHUR L. WATKINS, M.D., Boston.

PANEL DISCUSSION: NEW CONCEPTS IN TREATMENT OF RHEUMATIC DISEASES

Walter M. Solomon, M.D., Moderator

Rheumatoid Arthritis.

GORDON M. MARTIN, M.D., Consultant in Physical Medicine and Rehabilitation, Mayo Clinic, Rochester, Minn.; Assistant Professor of Physical Medicine and Rehabilitation, University of Minnesota Medical School, Minneapolis.

Degenerative Joints.

ARTHUR L. WATKINS, M.D., Assistant Clinical Professor of Medicine, Harvard Medical School, and Chief of Physical Medicine, Massachusetts General Hospital, Boston.

Non-Articular Rheumatism.

FRANCES BAKER, M.D., San Mateo, Calif.

American Society of Physical Medicine and Rehabilitation, Annual Business Meeting and Dinner (Members Only), Monday, August 31, Crystal Room, Palmer House at 7 P.M.

AMERICAN CONGRESS OF PHYSICAL MEDICINE AND REHABILITATION

Thirty-first Annual Scientific Session and Instruction Seminar

Preliminary Program

SCHEDULE OF INSTRUCTION SEMINAR

MONDAY, AUGUST 31

- 9:00 to 9:50—(A) **Pathological Physiology of Lesions of the Cervical Portion of the Spinal Cord and Brachial Plexus.** BROWN, Room 17.
- 9:00 to 9:20—(1) **Therapeutic Exercise for Athetosis and Spasticity.** PERLSTEIN, Room 18.
- 9:20 to 9:40—(1) **Bracing for Athetosis and Spasticity.** ALLEN, Room 18.
- 10:00 to 10:50—(B) **Pathological Physiology of Lesions of the Lower Spinal Cord and Lumbar and Sacral Plexus.** BROWN, Room 17.
- 10:00 to 10:20—(2) **Neurosurgery in Cerebral Palsy.** FAY, Room 18.
- 10:20 to 10:40—(2) **Preschool Training of Cerebral Palsy.** GILLETTE, Room 18.
- 3:00 to 3:50—(C) **Electromyography—Basic Physiology of the Motor Unit and Its Electrical Activity and Responses.** LAMBERT, Room 17.
- 3:00 to 3:50—(3) **Principles of Muscle Reeducation.** BENNETT, Room 18.
- 4:00 to 4:50—(D) **Electromyography Clinical Techniques.** LAMBERT, Room 17.
- 4:00 to 4:50—(4) **Methods of Application of Mass Movement and Facilitation Techniques for Therapeutic Exercise.** KABAT, Room 18.

TUESDAY, SEPTEMBER 1

- 8:30 to 9:20—(E) **Physiological Principles of Artificial Respiration.** KUBICEK, Room 17.
- 8:30 to 8:50—(5) **Use of Drugs.** SWEENEY, Room 18.
- 8:50 to 9:10—(5) **Rehabilitation Procedures and Aids.** GORDON, Room 18.

WEDNESDAY, SEPTEMBER 2

- 8:30 to 9:20—(F) **Physiological Background for Neuromuscular Reeducation and Coordination.** KNOWLTON, Room 17.
- 8:30 to 9:20—(6) **Microtherapy: Physiological Basis for Its Use, Indications and Dangers.** RAE, Room 18.

THURSDAY, SEPTEMBER 3

- 8:30 to 9:20—(G) **Pathology of Trauma and Its Implications in Physical Treatment.** KNAPP, Room 17.
- 8:30 to 9:20—(7) **Classification, Diagnosis and Treatment of Myelopathies.** MARKS, Room 18.

FRIDAY, SEPTEMBER 4

- 8:30 to 9:20—(H) **Anatomy of the Cervical Portion of the Spinal Cord and Brachial Plexus.** HOLLINSHEAD, Room 17.
- 8:30 to 9:20—(8) **Complications of the Use of Hormones in the Treatment of Rheumatism.** POLLEY, Room 18.

LECTURERS FOR INSTRUCTION SEMINAR

- JOHN C. ALLEN, M.D.,** Medical Director, School of Physical Therapy, University of Connecticut, Storrs; Physiatrist, Hartford Hospital, Hartford, Conn.;
- ROBERT L. BENNETT, M.D.,** Medical Director, Georgia Warm Springs Foundation, Warm Springs, Ga.; Professor, Emory University School of Medicine, Emory University, Ga.;
- MEYER BROWN, M.D.** (by invitation), Assistant Professor, Nervous and Mental Diseases, Northwestern University Medical School, Chicago; Attending Neurologist, Evanston Hospital, Evanston, Ill., and Veterans Administration Hospital, Hines, Ill.;
- TEMPLE S. FAY, M.D.** (by invitation), Professor, Department of Neurosurgery, Woman's Medical College of Pennsylvania, Philadelphia, Pa.;
- HARRIET E. GILLETTE, M.D.,** Consultant in Physical Medicine, Georgia State Department of Health, Crippled Children's Division, Atlanta; Consultant in Physical Medicine, Division of Vocational Rehabilitation, Georgia Department of Education, Atlanta, Ga.;
- EDWARD E. GORDON, M.D.,** Medical Director, Institute for Crippled and Disabled; Associate Professor in Physical Medicine and Rehabilitation, Bellevue Medical Center, New York, N.Y.;
- W. HENRY HOLLINSHEAD, Ph.D.** (by invitation), Professor of Anatomy, Mayo Foundation, University of Minnesota, Minneapolis; Head of Section of Anatomy, Mayo Clinic, Rochester, Minn.;
- HERMAN KABAT, M.D.,** Medical Director, Kabat-Kaiser Institute, Vallejo, Calif.;
- MILAND E. KNAPP, M.D.,** Clinical Professor of Physical Medicine and Rehabilitation, University of Minnesota Medical School, Minneapolis, Minn.;
- G. CLINTON KNOWLTON, Ph.D.** (by invitation), Associate Professor, Department of Physiology, Emory University School of Medicine, Emory University, Ga.;
- WILLIAM G. KUBICEK, Ph.D.** (by invitation), Associate Professor, Department of Physical Medicine and Rehabilitation, University of Minnesota Medical School, Minneapolis, Minn.;
- EDWARD H. LAMBERT, M.D.** (by invitation), Associate Professor of Physiology, Mayo Foundation, Graduate School of the University of Minnesota, Minneapolis; Consultant in Physiology, Mayo Clinic, Rochester, Minn.;
- MORTON MARKS, M.D.** (by invitation), Assistant Professor of Clinical Neurology, New York University College of Medicine; Assistant Attending Neurologist, University Hospital, New York, N.Y.;
- MEYER A. PERLSTEIN, M.D.** (by invitation), Pediatric Department, Northwestern University and Cook County Graduate School of Medicine, Chicago, Ill.;
- HOWARD F. POLLEY, M.D.,** Consultant in Section on Rheumatic Diseases, Mayo Clinic; Assistant Professor of Medicine, University of Minnesota Graduate School, Mayo Foundation, Minneapolis, Minn.;
- JAMES W. RAE, JR., M.D.,** Chairman, Department of Physical Medicine and Rehabilitation, University of Michigan Medical School; Associate Professor of Physical Medicine and Rehabilitation, University of Michigan Medical School, Ann Arbor, Mich.;
- FRANCIS X. SWEENEY, M.D.,** Medical Director, Michigan Multiple Sclerosis Center, Detroit, Mich.

GENERAL INFORMATION

RULES GOVERNING THE READING OF PAPERS

No paper or address before the Congress shall occupy more than fifteen minutes in its delivery. The program is so arranged that all the time is utilized and it is therefore imperative that the stated time schedule be closely followed.

All papers read before the Congress shall become the property of the Congress for publication in the official journal. Each paper shall be deposited with the assisting officer of the session when read.

THE CONVENTION

The registration desk will be open at 8:00 A.M., Monday, August 31 for registration. It is important that everyone register before entering the lecture hall. Those not wearing the official badge will be refused admission. This meeting is not open to the public. No registration fee will be charged.

BUSINESS SESSIONS

The annual business meetings for the members of the Congress will be held on Tuesday, September 1 at 4:30 P.M., and on Wednesday, September 2 at 4:30 P.M.

CONGRESS DINNER

The annual Congress dinner will be held on Wednesday evening, September 2, at 7:00 P.M., dress is optional. Exhibitors and guests are welcome. An interesting but brief dinner program has been arranged. You will enjoy this session, the only social function of the convention.

THE INSTRUCTION SEMINAR

Courses are offered in two separate groups. One group, designated by letters, consists of eight lectures on basic subjects. A second group of eight lectures, designated by numerals, will present more general and clinical subjects. Physicians as well as physical therapists who are registered with the American Registry of Physical Therapists will be permitted to register for these courses. Members in good standing of the American Occupational Therapy Association are also eligible to enroll for the instruction seminar.

The schedule of the seminar, as arranged, will permit attendance at both the course and scientific sessions.

Each registrant for the course is allowed the choice of one lecture during a period. The charge for the complete schedule of eight lectures is \$15.00. Fewer than eight lectures may be scheduled at \$2.00 per lecture. The right is reserved to reject any application if the Course Committee finds it desirable to do. Registration for specific courses cannot be guaranteed when quotas are filled.

Those who have not completed their registration for the course should do so before attending any of the lectures. No one will be admitted to any of the course lectures without the official registration card for the course. Registration for the course may be completed on Monday, August 31, starting at 8:30 A.M., and continuing throughout the week starting at 9:00 A.M. at the main registration desk.

AMERICAN SOCIETY OF PHYSICAL MEDICINE AND REHABILITATION

The American Society of Physical Medicine and Rehabilitation will hold its annual dinner and business meeting on Monday, August 31, at 7:00 P.M.

EDUCATIONAL CONFERENCE

The Educational Conference, sponsored by the American Society of Physical Medicine and Rehabilitation, is open to members of the Congress and others by invitation. The Conference will convene at 10:00 A.M., Monday, August 31. An interesting program has been planned.

SCIENTIFIC EXHIBITS

Scientific exhibits will be on display again and should prove of great interest. As is customary, medals will be awarded to those exhibits which are adjudged the outstanding ones by the committee on scientific awards and will be announced at the annual Congress dinner.

TECHNICAL EXHIBITS

The program of the scientific sessions and instruction seminar has been arranged with intermission periods to allow time for visits and inspection of the technical exhibits. As these have been given considerable thought and effort, we

urge every member and guest to set aside sufficient time for a complete tour of all exhibits.

Exhibits will be open from 9:00 A.M. to 5:00 P.M., Tuesday, September 1 through Thursday, September 3, and Friday, September 4 till 12:00 noon.

EDITORIAL BOARD

The annual meeting of the Editorial Board will be held on Sunday, August 30, 4:30 P.M.

AMERICAN REGISTRY OF PHYSICAL THERAPISTS

The annual meeting of the Boards of the Registry will be held on Tuesday, September 1, 7:00 P.M., at dinner.

HYDROTHERAPY GROUP

There will be a subscription luncheon meeting for the group interested in hydrotherapy on Wednesday, September 2, at 12:30 p.m.

VETERANS ADMINISTRATION

Official meeting of Veterans Administration Chief Consultant, and Area Consultants, Physical Medicine and Rehabilitation; Sunday, August 30, 10 A.M.

Annual VA luncheon for Chiefs, Consultants and Attending Physiatrists, Physical Medicine and Rehabilitation, Thursday, September 3, 12:30 P.M.

SCIENTIFIC FILMS

Several scientific films will be shown during the time of the convention.

SCHEDULE OF DAILY ACTIVITIES

31ST ANNUAL SESSION

SUNDAY, AUGUST 30

10:00 A.M. Meeting, Veterans Administration Consultants (See bulletin board for room number)
4:30 P.M. Meeting, Editorial Board (See bulletin board for room number)

MONDAY, August 31

8:00 A.M. Registration, Exhibit Hall
9:00 A.M. Instruction Seminar, Room 17
9:00 A.M. Instruction Seminar, Room 18
10:00 A.M. Instruction Seminar, Room 17
10:00 A.M. Instruction Seminar, Room 18
10:00 A.M. Scientific Session, American Society of Physical Medicine and Rehabilitation, Grand Ballroom
12:00 Noon Luncheon
12:30 P.M. Luncheon, Advisory Committee on Education, Council on Physical Medicine and Rehabilitation, American Medical Association (by invitation), Room 7
2:00 P.M. Scientific Session, American Society of Physical Medicine and Rehabilitation, Grand Ballroom
3:00 P.M. Instruction Seminar, Room 17
3:00 P.M. Instruction Seminar, Room 18
4:00 P.M. Instruction Seminar, Room 17
4:00 P.M. Instruction Seminar, Room 18
4:00 P.M. Board of Governors, Congress, Room 3
7:00 P.M. Annual Business Meeting and Dinner, American Society of Physical Medicine and Rehabilitation (members only), Crystal Room

TUESDAY, September 1

8:00 A.M. Registration, Exhibit Hall — Inspection of Exhibits
8:30 A.M. Instruction Seminar, Room 17
8:30 A.M. Instruction Seminar, Room 18
10:00 A.M. Scientific Session, Grand Ballroom
10:00 A.M. Scientific Session, Red Lacquer Room
12:00 Noon Luncheon — Inspection of Exhibits
12:30 P.M. Luncheon, Executive Council (by invitation), Room 9
2:00 P.M. Formal Opening Session, Grand Ballroom
4:30 P.M. First Congress Business Meeting (members only), Grand Ballroom
7:00 P.M. Registry Board Dinner (by invitation), Room 7

WEDNESDAY, September 2

8:00 A.M. Registration, Exhibit Hall — Inspection of Exhibits

- 8:30 A.M. Instruction Seminar, Room 17
 8:30 A.M. Instruction Seminar, Room 18
 10:00 A.M. Scientific Session, Grand Ballroom
 10:00 A.M. Scientific Session, Red Lacquer Room
 12:00 Noon Luncheon — Inspection of Exhibits
 12:50 P.M. Subscription Luncheon, Hydrotherapy Group, Room 9
 2:00 P.M. Scientific Session, Grand Ballroom
 1:30 P.M. Second Congress Business Meeting (members only), Grand Ballroom
 6:00 P.M. Cocktail Hour, Host, Chicago Society of Physical Medicine and Rehabilitation
 7:00 P.M. Annual Congress Dinner, Red Lacquer Room

THURSDAY, September 3

- 8:00 A.M. Registration, Exhibit Hall — Inspection of Exhibits
 8:30 A.M. Instruction Seminar, Room 17
 8:30 A.M. Instruction Seminar, Room 18
 10:00 A.M. Scientific Session, Grand Ballroom
 10:00 A.M. Scientific Session, Red Lacquer Room
 12:00 Noon Luncheon — Inspection of Exhibits
 12:30 P.M. Veterans Administration Personnel Luncheon, Crystal Room
 2:00 P.M. Scientific Session, Grand Ballroom
 4:00 P.M. Board of Governors, Congress, Room 3

FRIDAY, September 4

- 8:00 A.M. Registration, Exhibit Hall — Inspection of Exhibits
 8:30 A.M. Instruction Seminar, Room 17
 8:30 A.M. Instruction Seminar, Room 18
 10:00 A.M. Scientific Session, Grand Ballroom
 12:00 Noon Luncheon

GENERAL SCIENTIFIC SESSION

TUESDAY, September 1 — 10 A.M.

Grand Ballroom

Presiding — FRANK H. KRUSEN, Rochester, Minn.
 Assisting — HAROLD DINKEN, Denver.

- Present Status in the Management of Spasticity.**
 LOUIS B. NEWMAN, M.D., Chief, Physical Medicine and Rehabilitation Service, Veterans Administration Hospital, Hines, Illinois; Associate Professor, Department of Physical Medicine, Northwestern University Medical School, Chicago;
 ALEX J. ARIEFF, M.D. (by invitation) attending Neurologist, Veterans Administration Hospital, Hines, Ill.; Assistant Professor, Department of Nervous and Mental Diseases, Northwestern University Medical School, Chicago,
 and
 REUBEN R. WASSERMAN, M.D. (by invitation), Staff Physiatrist, Veterans Administration Hospital, Hines, Ill.
 Discussant: Joshua Ehrlich, M.D., Albany, N.Y.
- Effect of Exhaustive Muscular Efforts Upon the Strength of the Elbow Flexor Muscles.**
 H. HARRISON CLARKE, Ed. D., Professor of Physical Education, University of Oregon, Portland, Ore.
 Discussant: Robert W. Boyle, M.D., Ft. Thomas, Ky.
- A Comparison of the Patellar Reflex, Graded Muscle Power and Electromyographic Voltages in the Quadriceps.**
 GEORGE H. KOEPKE, M.D. (by invitation), Instructor, Department of Physical Medicine and Rehabilitation, University of Michigan Medical School;
 JAMES W. RAE, JR., M.D., Chairman, Department of Physical Medicine and Rehabilitation, University of Michigan Medical School; Associate Professor of Physical Medicine and Rehabilitation, University of Michigan Medical School;
 ALMA J. MURPHY, Ph.D. (by invitation),
 and
 ARTHUR L. DREW, M.D. (by invitation), Ann Arbor, Mich.
 Discussant: Arthur A. Rodriguez, M.D., Chicago.
- Electromyography in Intervertebral Disc Protrusions.**
 CHARLES S. WISE, M.D., Professor of Physical Medicine and Rehabilitation, The George Washington University School of Medicine,
 and
 JOSEPH ARDIZZONE, R.P.T. (by invitation), Chief Physical Therapist, Mt. Alto Veterans Administration Hospital, Washington, D.C.
 Discussant: Thomas P. Anderson, M.D., Hanover, N.H.

5. Correlation of Microscopic and Electromyographic Findings in Muscle.

ROBERT V. JONES, Jr., M.D. (by invitation), Fellow in Physical Medicine and Rehabilitation, The Mayo Foundation;

EDWARD H. LAMBERT, M.D. (by invitation), Associate Professor of Physiology, The Mayo Foundation;
 GEORGE P. SAYRE, M.D. (by invitation), Instructor in Pathology, The Mayo Foundation,

and
 FRANK H. KRUSEN, M.D., Professor of Physical Medicine and Rehabilitation, The Mayo Foundation, and Head of Section on Physical Medicine and Rehabilitation, Mayo Clinic, Rochester, Minn.

Discussant: O. Leonard Huddleston, M.D., Santa Monica, Calif.

6. Evaluation of Conservative Treatment for Cervical Disk Syndrome.

GORDON M. MARTIN, M.D., Consultant in Physical Medicine and Rehabilitation, Mayo Clinic, Rochester, Minn.; Assistant Professor of Physical Medicine and Rehabilitation, University of Minnesota Medical School, Minneapolis,

and
 KENDALL BROOKS CORBIN, M.D. (by invitation), Associate Director, Mayo Foundation for Medical Education and Research, University of Minnesota Graduate School, Rochester, Minn.

Discussant: George D. Wilson, M.D., Asheville, N.C.

GENERAL SCIENTIFIC SESSION

TUESDAY, September 1 — 10 A.M.

Red Lacquer Room

Presiding — A.B.C. KNUDSON, Washington, D. C.
 Assisting — CHARLES O. MOLANDER, Chicago.

- Rationalized Teaching of Hydrotherapy.**
 HANS J. BEHREND, M.D., Associate, Physical Medicine, Hospital of Joint Diseases; Director, Physical Medicine and Rehabilitation, Beth Abraham Home, Bronx, N.Y.
 Discussant: Isadore Levin, M.D., Washington, D.C.
- The Use and Abuse of Braces in Rehabilitation of Neuromuscular Disorders.**
 ODON F. VON WERSSOWETZ, M.D., Professor, Physical Medicine, Meharry Medical College, Nashville; Chief, Physical Medicine Rehabilitation Service, Thayer Veterans Administration Hospital, Nashville, Tenn.
 Discussant: Jessie Wright, M.D., Pittsburgh.
- Spa Therapy on the American Continent.**
 FERDINAND LUSTIG, M.D., Department of Physical Medicine, Hospital for Joint Diseases, New York.
 Discussant: Adam Peylan, M.D., Tel-Aviv, Israel.
- Progress Report of the Baruch Center of Physical Medicine.**
 HERBERT W. PARK, M.D., Professor of Physical Medicine and Rehabilitation, Medical College of Virginia; Medical Director, School of Physical Therapy, Medical College of Virginia, Richmond, Va.
 Discussant: Frank H. Krusen, M.D., Rochester, Minn.
- Results of a Combined Medical and Rehabilitation Program in Tuberculosis. A Preliminary Report.**
 ALBERT HAAS, M.D. (by invitation), Physician in Charge of Chest Rehabilitation, Department of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center;
 HOWARD A. RUSK, M.D., Institute of Physical Medicine and Rehabilitation, New York,
 and
 MORTON ZIVAN, M.A. (by invitation), Rehabilitation Counselor, Department of Physical Medicine and Rehabilitation, Bellevue Hospital, New York, N. Y.
 Discussant: Keith Keeler, M.D., Cleveland, Ohio.
- Understanding Aphasia.**
 RAOU L. PSAKI, Lt. Col., MC, Chief, Physical Medicine Service, Letterman Army Hospital;
 JAMES A. SHAFER, Capt., MC, (by invitation), Senior Resident, Physical Medicine Service, Letterman Army Hospital,
 and
 RICHARD S. MÜNGER, Capt., MC, (by invitation), Resident, Physical Medicine Service, Letterman Army Hospital, San Francisco, Calif.
 Discussant: John C. Allen, M.D., Hartford, Conn.

GENERAL SCIENTIFIC SESSION**TUESDAY, September 1 — 2 P.M.****Grand Ballroom**

Presiding — **WALTER M. SOLOMON**, Cleveland, Ohio.
 Assisting — **FRANCES BAKER**, San Mateo, Calif.

OPENING OF THE 31ST ANNUAL SESSION**INVOCATION**

Rev. Jeremiah J. O'Callaghan, S.J.
 Academic Vice-President, Loyola University

ADDRESSES OF WELCOME

Walter C. Bornemeier, M.D.
 President, Chicago Medical Society

Milton G. Schmitt, M.D.
 President, Chicago Society of Physical Medicine and Rehabilitation

1. **Presidential Address: The American Congress of Physical Medicine and Rehabilitation: Its Significance and Purpose.**
WALTER M. SOLOMON, M.D., Cleveland, Ohio.

2. **Hip Arthroplasty. Synthetic Replacement of the Femoral Head.**

EDWARD L. COMPERE, M.D. (by invitation), Professor of Bone and Joint Surgery, Northwestern University Medical School; Chairman of Department of Orthopaedics, Wesley Memorial Hospital; Consultant in Orthopaedics at Chicago Memorial, Augustana and Henrotin Hospitals, Chicago.

Discussant: **Miland Knapp**, M.D., Minneapolis, Minn.

3. **Management of the Stiff and Painful Shoulder.**

HARRIET E. GILLETTE, M.D., Consultant, Georgia Department of Public Health; Consultant, Division of Vocational Rehabilitation, Atlanta, Ga.

Discussant: **William B. Snow**, M.D., New York, N.Y.

4. **The Chronic Rheumatoid Arthritic: Psycho-Social Factors in Rehabilitation.**

EDWARD W. LOWMAN, M.D., Department of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center; Assistant Professor of Physical Medicine and Rehabilitation, New York University College of Medicine, New York.

Discussant: **Shelby Gamble**, M.D., Columbus, Ohio.

5. **Muscle Fasciculation.**

A. T. RICHARDSON, M.B. M.R.C.P., D. Phys. Med. (by invitation), St. Thomas' Hospital, London, England.

Discussant: **Edward B. Shires**, Lt. Col., MC, Phoenixville, Pa.

GENERAL SCIENTIFIC SESSION**WEDNESDAY, September 2 — 10 A.M.****Grand Ballroom**

Presiding — **GORDON M. MARTIN**, Rochester, Minn.
 Assisting — **FREDERIC J. KOTKE**, Minneapolis.

SYMPOSIUM ON ULTRASOUND

1. **Investigations of Possible Cavitation Occurring in Biologic Systems Following Exposure to Ultrasound.**

JUSTUS F. LEHMANN, M.D. (by invitation), Fellow in Physical Medicine and Rehabilitation, Mayo Clinic; **JULIA F. HERRICK**, Ph.D. (by invitation), Associate Professor of Experimental Medicine, Mayo Foundation, University of Minnesota Graduate School,

and **FRANK H. KRUSEN**, M.D., Professor of Physical Medicine and Rehabilitation, Mayo Foundation, and Head of Section on Physical Medicine and Rehabilitation, Mayo Clinic, Rochester, Minn.

Discussant: **Fritz Friedland**, M.D., Boston.

2. **Review of Literature and Clinical Applications of Ultrasonics.**

ALBERT A. MARTUCCI, M.D., Associate Professor, Physical Medicine and Rehabilitation, University of Pennsylvania Graduate School of Medicine, Philadelphia; Associate in Medicine, Woman's Medical College, Philadelphia; Chief, Physical Medicine and Rehabilitation, Abington Memorial Hospital, Abington, Pa.

Discussant: **Herman Reatzy**, M.D., Dayton, Ohio.

3. **Indication and Contra-indication for Ultrasonic Therapy.**
JOHN H. ALDES, M.D., Director, Department of Physical Medicine and Rehabilitation, Cedars of Lebanon Hospital, Los Angeles, Calif.

Discussant: **Ralph E. De Forest**, M.D., Chicago.

4. **Ultrasound and Treatment of Scars.**

WILLIAM BIERMAN, M.D., Assistant Clinical Professor of Physical Medicine and Rehabilitation, Columbia University; Attending in Physical Medicine, Mt. Sinai Hospital, New York.

Discussant: **George M. Piersol**, M.D., Philadelphia.

5. **Partial Trapezius Palsy. Differential Diagnosis, Prognosis and Evaluation of Residual Disability.**

GERALD G. HIRSCHBERG, M.D., Chief, Physical Medicine Rehabilitation Service, Veterans Administration Hospital, Oakland, Calif.

Discussant: **Eugene Moskowitz**, M.D., Mt. Vernon, N.Y.

6. **Experimental Iontophoresis Studies with Radioisotopes.**

Y. T. GESTER, M.D., Acting Chairman, Department of Pharmacology, Stritch School of Medicine, Loyola University,

and **EDWARD P. O'MALLEY**, M.S. (by invitation), Public Health Research Fellow of National Institutes of Health, Chicago.

Discussant: **I. F. Hummon, Jr.**, M.D., Chicago.

GENERAL SCIENTIFIC SESSION**WEDNESDAY, September 2 — 10 A.M.****Red Lacquer Room**

Presiding — **DONALD L. ROSE**, Kansas City, Kan.

Assisting — **BEN L. BOYNTON**, Houston, Texas.

1. **Dynamic Exercises for Lower Extremity Amputees.**

OTTO EISERT, M.D., Chief, Physical Medicine and Rehabilitation Service, Veterans Administration Hospital, Brooklyn,

and **OWEN TESTER**, R.P.T. (by invitation), Chief, Physical Therapy Department, Veterans Administration Hospital, Brooklyn, N.Y.

Discussant: **Joseph M. Markel**, M.D., Detroit, Mich.

2. **The Team Approach to Upper Extremity Prosthetic Problems.**

EDWARD E. GORDON, M.D., Associate Professor of Rehabilitation Medicine, College of Physicians and Surgeons, Columbia University; Medical Director, Institute for the Crippled and Disabled, New York.

Discussant: **John W. Deylon**, M.D., Okmulgee, Okla.

3. **Clinical Observations on the Military Peripheral Nerve Injury.**

ELIAS M. THRONE, Capt., MC, Chief Resident, Physical Medicine Service, Letterman Army Hospital;

ARTHUR E. GRANT, Capt., MC (by invitation), Senior Resident, Physical Medicine Service, Letterman Army Hospital,

and **RAOUL C. PSAKI**, Lt. Col., MC, Chief Physical Medicine Service, Letterman Army Hospital, San Francisco, Calif.

Discussant: **John H. Kulbert**, Lt. Col., MC, Ft. Sam Houston, Texas.

4. **A Critique of Physical Medicine and Rehabilitation in the VA: Adaptation to General Practice Based on Community Needs.**

A.B.C. KNUDSON, M.D., Chief, Physical Medicine and Rehabilitation Division, Professional Services, Veterans Administration, Washington, D.C.; Associate in Physical Medicine and Rehabilitation, George Washington University Medical School,

and **JOSEPH H. VAN SCHOCK**, B.A. (by invitation), Executive Officer, Physical Medicine and Rehabilitation Division, Professional Services, Veterans Administration, Washington, D.C.

Discussant: **Fred B. Moor**, M.D., Los Angeles.

5. **Impediments to Rehabilitation in the Paraplegic.**

WILLIAM H. SCHMIDT, M.D., Associate Professor of Physical Medicine, Jefferson Medical College of Philadelphia, Philadelphia,

and
CHARLES A. FUREY, M.D. (by invitation), Department of Physical Medicine and Rehabilitation, Jefferson Medical College of Philadelphia, Philadelphia.
Discussant: Carl C. Hoffman, M.D., Denver, Colo.

6. **A Paraplegic Program Under Physical Medicine and Rehabilitation: One Year's Experience.**

HARRY T. ZANKEL, M.D., Chief, Physical Medicine Rehabilitation, Crile Veterans Administration Hospital;
BRUCE B. SUTTON, M.D. (by invitation), Assistant Chief, Physical Medicine Rehabilitation; Chief, Paraplegia Section of the Physical Medicine Rehabilitation Service, Crile Veterans Administration Hospital,

and
THOMAS E. BURNEY, M.D. (by invitation), Staff Physician, Physical Medicine Rehabilitation Service, Crile Veterans Administration Hospital, Cleveland, Ohio.
Discussant: Herman J. Flax, M.D., Santurce, Puerto Rico.

GENERAL SCIENTIFIC SESSION

WEDNESDAY, September 2 — 2 P.M.

Grand Ballroom

Presiding — WILLIAM B. SNOW, New York, N.Y.
Assisting — RALPH E. DE FOREST, Chicago.

1. **Third John Stanley Coulter Memorial Lecture: A Medical Physicist Looks At Physical Medicine.**

OTTO GLASSER, Ph.D. (by invitation), Professor of Biophysics, Frank E. Bunts Educational Institute; Head, Department of Biophysics, Cleveland Clinic Foundation, Cleveland, Ohio.

2. **Early Recognition and Care of Paralytic Scoliosis.**

ROBERT L. BENNETT, M.D., Medical Director, Georgia Warm Springs Foundation, Warm Springs, Ga.; Professor, Emory University School of Medicine, Emory University, Ga.

Discussant: Kristian G. Hansson, M.D., New York, N.Y.

3. **Prescription for Mobilization in Paralytic Conditions.**

DUANE A. SCHRAM, M.D., Medical Director, Gonzales Warm Springs Foundation, Gonzales, Texas.

Discussant: William J. LaJole, M.D., Phoenix, Ariz.

4. **The EEG in Behavior Problems Following Poliomyelitis.**

LEON OETTINGER, JR., M.D. (by invitation), Chief, Pediatrics, Sister Kenny Polio Hospital, El Monte, Calif.; Instructor in Pediatrics, University of Southern California, Los Angeles, Calif.

5. **Preliminary Observations on the Psychiatric Aspects of Treatment in the Respirator.**

ROBERT M. FEET, M.D. (by invitation),
HOWARD P. ROME, M.D. (by invitation),

and
EARL C. ELKINS, M.D., Section on Physical Medicine and Rehabilitation, Mayo Clinic; Medical Director, School of Physical Therapy, Mayo Clinic, Rochester, Minn.

Discussant: Jack Meislin, M.D., Montrose, N.Y.

6. **The Problem of Tendon Transfers in the Forearm and Hand.**

DON L. EYLER, M.D. (by invitation), Assistant in Clinical Orthopedic Surgery, Vanderbilt University Hospital; Instructor, Department of Anatomy, Vanderbilt University Hospital, Nashville, Tenn.

Discussant: George K. Stillwell, M.D., St. Paul, Minn.

GENERAL SCIENTIFIC SESSION

THURSDAY, September 3 — 10 A.M.

Grand Ballroom

Presiding — WALTER S. McLELLAN, Saratoga Springs, N.Y.
Assisting — DISRAELI KOBAK, Chicago.

1. **Relation of Frequency and Sensory Nerve Supply to the Tension Developed in Normal and Denervated Muscle by Electrical Stimulation.**

JEROME GERSTEN, M.D., Associate Professor of Physical Medicine and Rehabilitation, University of Colorado School of Medicine, Denver, Colo.

Discussant: Disraeli Kobak, M.D., Chicago.

2. **The Cobalt Chloride Sweating Test: A Clinical Evaluation and Review of Complications.**

FREDERICK E. VULTEE, JR., M.D. (by invitation), Senior Resident, Physical Medicine Service, Walter Reed Army Hospital, Washington, D.C.;

JOHN H. KUITERT, Lt. Col., MC, Chief, Physical Medicine Service, Brooke Army Hospital, Ft. Sam Houston, Texas,

and
MARGARET P. LADD, R.P.T. (by invitation), Clinical Supervisor and Instructor, Walter Reed Army Medical Center, Washington, D.C.

Discussant: Karl Harpuder, M.D., New York, N.Y.

3. **Cardiac Requirements of Occupational Therapy.**

ARTHUR B. QUIGGLE, M.D. (by invitation), Minneapolis, Minn.

Discussant: Joseph G. Benton, M.D., New York, N.Y.

4. **Rehabilitation of the Hemiplegic Patient.**

FLORENCE I. MAHONEY, M.D., Chief, Physical Medicine and Rehabilitation Service, Veterans Administration Hospital, Memphis, Tenn.

Discussant: Raoul C. Psaki, Lt. Col., MC, San Francisco, Calif.

5. **Altered Vasomotor Changes (Peripheral) in Hemiplegia.**

EARL F. HOERNER, M.D. (by invitation), Chief, Department of Physical Medicine and Rehabilitation, School of Medicine, University of Louisville, Louisville, Ky.

Discussant: Ferdinand F. Schwartz, M.D., Birmingham, Ala.

6. **Physiological Background for Neuromuscular Re-education and Coordination.**

G. CLINTON KNOWLTON, Ph.D. (by invitation), Associate Professor, Department of Physiology, Emory University School of Medicine, Emory University, Ga.

Discussant: Milton G. Schmitt, M.D., Chicago.

GENERAL SCIENTIFIC SESSION

THURSDAY, September 3 — 10 A.M.

Red Lacquer Room

Presiding — O. LEONARD HUDDLESTON, Santa Monica, Calif.
Assisting — OSCAR O. SELKE, JR., Houston, Texas.

1. **Clinical Uses of Chronaxie.**

WILLIAM J. ERDMAN II, M.D., Fellow of the National Foundation for Infantile Paralysis; Instructor in Physical Medicine and Rehabilitation, School of Medicine, University of Pennsylvania and Graduate School of Medicine, University of Pennsylvania, Philadelphia, Pa.

Discussant: Edward M. Krusen, Jr., M.D., Dallas, Texas.

2. **Effects of Electrical Stimulation Upon Denervation Atrophy in the Rat.**

GORDON K. BRANES, B.A. (by invitation), Fellow in Physiology, Mayo Foundation,

and
DALE VERNON SHAFFER, B.S. (by invitation), Fellow in Physiology, Mayo Foundation, Rochester, Minn.

Discussant: Clarence W. Dail, M.D., San Gabriel, Calif.

3. **Neck Traction in Cervical Radiculitis.**
H. WORLEY KENDELL, M.D., Medical Director, Institute of Physical Medicine Rehabilitation, Peoria, Ill.; Clinical Professor of Physical Medicine and Rehabilitation, University of Illinois College of Medicine, Chicago.
Discussant: Harvey E. Billig, Jr., M.D., Los Angeles, Calif.
4. **The Treatment of the Fractured Spine, Marie Strumpell Arthritis and Scheuermann's Disease Using the Hyperextension Back Brace.**
RUTH S. JEWETT, M.D. (by invitation), Orange Memorial Hospital, Florida Sanitarium and Hospital, Orlando, Fla.,
and
EUGENE L. JEWETT, M.D., Consultant, Orthopedic Service, West Orange Memorial Hospital, Winter Garden, Fla.; Florida Sanitarium and Hospital, Orlando, Fla.
Discussant: Bert A. Treister, M.D., Cleveland, Ohio.
5. **Pain, The Trickster.**
ROBERT W. NEWMAN, M.D., Professor, Orthopedic Surgery, State University of Iowa, College of Medicine, Iowa City, Iowa.
Discussant: Nathan H. Palmer, M.D., New Orleans, La.
6. **Shoes in Health and Disease.**
HENRY V. MORELEWICZ, M.D., Chief, Department of Physical Medicine, University of Buffalo Chronic Disease Research Institute, Buffalo, N.Y.
Discussant: Jerome Weiss, M.D., Brooklyn, N.Y.
6. **The Use of University Facilities in a Broad Rehabilitation Program.**
RALPH WORDEN, M.D., Assistant Professor in Medicine, Physical Medicine and Rehabilitation; Director, Ohio State University Rehabilitation Center,
and
KENNETH W. HAMILTON, B.S. (by invitation), Assistant Professor, School of Social Administration, Ohio State University; Director, Rehabilitation Services, Ohio State University Rehabilitation Center, Columbus, Ohio.
Discussant: Jacob L. Rudd, M.D., Boston.
7. **Functional Bases for Rehabilitation.**
ALLEN S. RUSSEK, M.D., Assistant Professor of Physical Medicine and Rehabilitation, New York University College of Medicine, New York, N.Y.
Discussant: Joseph Koczur, M.D., Park Forest, Ill.
8. **Physiatric Methods of Treatment in Neuropsychiatric Hospital.**
CHARLES H. REAGAN, M.D., Chief, Physical Medicine Rehabilitation, Veterans Administration Hospital, Tuscaloosa, Ala.
Discussant: Daniel Danek, M.D., Huntington, N.Y.

GENERAL SCIENTIFIC SESSION

THURSDAY, September 3 — 2 P.M.

Grand Ballroom

Presiding — HOWARD A. RUSK, New York, N.Y.
Assisting — PAUL NELSON, Cleveland, Ohio.

1. **Milestones of Progress in Physical Medicine.**
HOWARD A. CARTER, M.E., Director of Biophysical Investigations, Council on Physical Medicine and Rehabilitation, American Medical Association, Chicago.
Discussant: William H. Schmidt, M.D., Philadelphia.
2. **Current Use of Cortisone, Hydrocortisone and Corticotropin in Rheumatoid Arthritis.**
HOWARD F. POLLEY, M.D., Consultant in Medicine, Section on Rheumatic Diseases, Mayo Clinic; Assistant Professor of Medicine, University of Minnesota Graduate School, Minneapolis, Minn.
Discussant: Frances Baker, M.D., San Mateo, Calif.
3. **Effects of Nitrogen Mustard Therapy in Patients with Rheumatoid Arthritis.**
WILLIAM D. PAUL, M.D., Associate Professor of Medicine; Chairman, Division of Physical Medicine, State University of Iowa College of Medicine;
R. E. HODGES, M.D. (by invitation), Instructor, Department of Internal Medicine, State University of Iowa College of Medicine;
W. B. BEAN, M.D. (by invitation), Professor and Head, Department of Internal Medicine, State University of Iowa College of Medicine;
J. I. ROUTH, Ph.D. (by invitation), Professor of Biochemistry, State University of Iowa College of Medicine,
and
KATE DAUM, Ph.D. (by invitation), Associate Professor, Department of Medicine and Head of Nutrition Department, State University of Iowa College of Medicine, Iowa City, Iowa.
Discussant: Bror S. Troedsson, M.D., Orange, N. J.
4. **Evaluation of 200 Cases of Shoulder Disorder.**
BRUCE B. GRYNBAUM, M.D., Assistant Professor, Clinical Physical Medicine and Rehabilitation, New York University; Director, Physical Medicine and Rehabilitation, Department of Hospitals, City of New York, New York, N. Y.
Discussant: Fred J. Fricke, M.D., Omaha, Neb.
5. **Deterioration in the Cervical Spine with Age.**
RUSSELL S. BLANCHARD, M.D. (by invitation), Minneapolis, Minn.
Discussant: Michael Dacro, M.D., New York, N. Y.

GENERAL SCIENTIFIC SESSION

FRIDAY, September 4 — 10 A.M.

Grand Ballroom

Presiding — WILLIAM PAUL, Iowa City, Iowa.
Assisting — ARTHUR A. RODRIGUEZ, Chicago.

1. **Use of Speech Therapy in Physical Medicine.**
O. LEONARD HIDDLESTON, M.D., Clinical Professor of Physical Medicine, University of Southern California, Los Angeles; Resident Medical Director, Kabat-Kaiser Institute for Neuromuscular Rehabilitation;
ELIZABETH CARPENTER, B.S. (by invitation), Head of Speech Therapy Department, Kabat-Kaiser Institute for Neuromuscular Rehabilitation, Santa Monica, Calif.,
and
HERMAN KABAT, M.D., Medical Director, Kabat-Kaiser Institute, Vallejo, Calif.
Discussant: Donald Covatt, M.D., New York, N.Y.
2. **Role of the Physiatrist in a Convalescent Hospital.**
EDWARD J. LORENZE, III, M.D., Burke Foundation, White Plains, N.Y.
Discussant: Nila Kirkpatrick Covatt, M.D., Rocky Hill, Conn.
3. **The Psychiatric Sheltered Workshop.**
JACK MEISLIN, M.D., Special Lecturer, Staff of Department of Physical Therapy, College of Physicians and Surgeons, Columbia University, New York City; Chief, Physical Medicine and Rehabilitation Service, Veterans Administration Hospital, Montrose, N.Y.
Discussant: Gustavo Gingras, M.D., Montreal, Que., Canada.
4. **The Clinical Assessment of Low Back Pain and Its Treatment.**
JOHN MCM. MENNELL, M.D., Medical Director, Woodrow Wilson Rehabilitation Center, Fishersville, Va.; Assistant Professor of Clinical Physical Medicine, Medical College of Virginia, Richmond, Va.
Discussant: Herbert Kent, Capt., MC, Sheppard AFB, Texas.
5. **Comparison of the Temperatures Produced by Carbon Filament and by Tungsten Filament.**
KHALIL G. WAKIM, M.D. (by invitation), Professor of Physiology and Research Consultant, Mayo Foundation and Mayo Clinic,
and
FRANK H. KRUSEN, M.D., Professor of Physical Medicine and Rehabilitation, Mayo Foundation, and Head of Section on Physical Medicine and Rehabilitation, Mayo Clinic, Rochester, Minn.
Discussant: Frederic T. Jung, M.D., Chicago.
6. **The Production and Evaluation of Muscular Hypertrophy.**
REX O. McMORRIS, M.D., Fellow, Mayo Foundation, Rochester, Minn.
Discussant: Ray Plaskoski, M.D., Wood, Wis.

7. **Electromyography and Myelography: Comparisons and Results in Diagnosis of Spinal Cord Lesions.** MAX K. NEWMAN, M.D., Detroit Institute of Physical Medicine and Rehabilitation, Detroit, Mich.
Discussant: Gerald G. Hirschberg, M.D., Oakland, Calif.
8. **Physical Medicine and Rehabilitation at the Chicago Welfare Department Convalescent Home.** ARTHUR A. RODRIGUEZ, M.D., Chicago.
Discussant: Murray Ferderber, M.D., Pittsburgh.

SCIENTIFIC EXHIBITS

Rehabilitation of the Arthrotomized Knee. ARTHUR S. ABRAMSON, M.D.

American Occupational Therapy Association.

Balneology and Health Resorts of the United States. Committee on Balneology and Health Resorts: HANS J. BEHREND, M.D., Chairman; WILLIAM BIERMAN, M.D.; K. G. HANSSON, M.D.; WALTER S. McLELLAN, M.D.; DUANE A. SCHRAM, M.D.; FERDINAND F. SCHWARTZ, M.D., and SAMUEL A. WARSHAW, M.D.

Treatment of Non-Paralytic Poliomyelitis. ROBERT BINGHAM, M.D.

Physics in Medicine. HOWARD A. CARTER, M.E.; RALPH E. DE FOREST, M.D., and FREDERIC T. JUNG, M.D.

Procedures and Goals in Comprehensive Rehabilitation. ROBERT C. DARLING, M.D.

Dynamic Exercises for Lower Extremity Amputees. OTTO EISERT, M.D.

Use of Speech Therapy in the Rehabilitation of the Physically Handicapped. O. LEONARD HUDDLESTON, M.D.

Plethysmography As a Method of Measuring Blood Flow. CHARLES J. IMIG, Ph.D.

Assets and Deficits in Rehabilitation in Chronic Rheumatoid Arthritis. EDWARD W. LOWMAN, M.D.

Physical Medicine Program for Post-Lobotomy Patients. NORMAN MITCHELL, M.D.

Rehabilitation in Poliomyelitis. NATIONAL FOUNDATION FOR INFANTILE PARALYSIS.

Employment of the Homebound. NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS, INC.

Reading Therapy. WILLIAM D. PAUL, M.D.

Physical Medicine and Rehabilitation—Occupational Therapy—Manual Arts Therapy—Educational Therapy. RUTH RUMSEY.

A Dynamic Lumbosacral Plexus: Anatomy and Motor Function. JOHN H. KUITERT, LT. COL., MC; FREDERICK E. VULTEE, CAPT., MC, and JOSEPH W. THOMAS, LT. COL., MC.

Physical Medicine and Rehabilitation at the Chicago Welfare Department Convalescent Home. ARTHUR A. RODRIGUEZ, M.D.

Combination Therapeutic Tank and Pool. SAMUEL SYERDLIK, M.D.

TECHNICAL EXHIBITS

AMERICAN HOSPITAL SUPPLY CORP.

American will exhibit its new, improved rocking bed for treatment of both pulmo and peripheral vascular diseases. This bed is easily adjusted to fit the needs of both types of patients with equal efficiency. Also on display will be the Monaghan Respirator, widely used in the treatment of pulmo.

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You are cordially invited to a demonstration of our high voltage, microamperage stimulator. We will be glad to tell

you about its increased use as an effective aid to rehabilitating many types of post-injury cases with muscular involvement.

THE BIRTCHER CORP.

The Birtcher Corporation will give the premiere showing of their commercial Ultrasonic unit. In addition, they will show a radically new diathermy. This particular machine is new and different in that the meter indicates the actual energy being absorbed by the patient. Also on display will be their complete line of accepted and widely used electro-medical-surgical apparatus. Courteous representatives will be on hand to answer your questions.

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Camp Supports and Plastica Orthopraxis Appliances offer many practical solutions to certain adult and child requirements for effective support as prescribed by the profession. Camp Supports brace the pelvis, stabilize the center of gravity and give the weakened muscles of the abdomen and back needed support. Experts from the Camp staff will be in attendance to answer questions pertaining to their scientific application.

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THE HYDROCOLLATOR STEAM PACK will be exhibited. This efficient modality simplifies the application of effective moist heat. The HYDROCOLLATOR provides effective thermotherapy without investment in costly, complicated machines. In the hospital and clinic, the HYDROCOLLATOR Master Unit automatically maintains a ready-to-use supply of steam packs. In the home, the steam pack is readily heated in any convenient vessel of water on the stove.

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On exhibit will be the Drop-Foot Alder, Pull and Adjust (P.A.) Brace, the Aluminum Adjustable Crutch (Canadian Style), the Aluminum Adjustable Cane, and the Ambulaider. A cordial invitation is extended to all to see this latest equipment.

DALLONS LABORATORIES, INC.

A visit to the Dallons Laboratories, Inc., display in booth 59 will be a worthwhile stop. Qualified personnel will be on hand to give you factual information regarding Medical Short Wave Diathermy and the new FCC regulations. You are cordially invited to see the new Medtherm Short Wave Diathermy, also the most complete line of cold quartz ultraviolet apparatus. As the foremost manufacturers of Quartz Piezo-Electric transducers for eleven years, we invite your inquiries on Ultrasonic apparatus now under development to be available soon.

ELGIN EXERCISE APPLIANCE CO.

The Elgin Exercise Appliance Company invites your inspection of the ELGIN EXERCISE UNIT and the DOOR-WAY EXERCISE UNIT. The design of the Exercise Unit is the result of extensive laboratory experiment and clinical study aimed at a quantitative method for redevelopment of major muscles and restoration of motion to major joints.

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H. G. FISCHER & CO.

Favor us with a visit at booth 14. Allow our representatives to make interesting demonstrations of our Deluxe Cabinet Type and our low priced Portable Type Short Wave Diathermy Units. Each conforms to and surpasses the legal requirements of the Federal Communications Commission, effective June 30, 1953, relative to diathermy machines. See a colorful photographic display of other apparatus of our manufacture.

GENERAL ELECTRIC CO., X-RAY DEPT.

See the GE Model F Inductotherm featuring increased output, built-in electrosurgical unit, facilities for use of three electrodes . . . contour, cable, and air-spaced. Company representatives will gladly demonstrate the Inductotherm to you.

HANOVIA CHEMICAL & MFG. CO.

See the outstanding diathermy with simplified operating features; quartz lamps, self-lighting type for artificial and general body irradiation, black light for diagnostic work, Sollux infrared heat lamps and the new type germicidal lamps. Courteous and competent representatives will be at your service.

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The following equipment will be on display: ANATOMOTOR—a treatment table providing rolling traction; TROPIDORES—an effective and efficient apparatus scientifically designed to produce artificial heat in localized areas, continuously and for prolonged periods.

ILLE ELECTRIC CORP.

HYDROMASSAGE SUBAQUA THERAPY EQUIPMENT—The Ille Electric Corporation will demonstrate in booth 36, how the care of infantile paralysis, arthritis, and other disabling conditions can be greatly improved by the use of Hydromassage Subaqua Therapy Tanks. Also on display will be a Mobile Whirlpool Bath with Mobile Adjustable High Chair and Paraffin Bath.

THE LIEBEL-FLARSHEIM CO.

The Liebel-Flarsheim Company, Cincinnati, Ohio, manufacturers of electromedical equipment for over thirty-five years, cordially invites you to visit booth 8 in which their latest short-wave diathermy apparatus will be available for examination and demonstration. Capable representatives will be on hand at all times, and we hope you will stop by so that we may become acquainted.

R. J. LINDQUIST CO.

"Piezotronics in Medicine" will be the subject of the display of new therapeutic methods by R. J. Lindquist Co., at booth 3. Lindquist products include Chronaximeters, Approved Short Waves, Chronwave Stimulators, and Chronosonic Ultrasound.

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J. B. Lippincott Company presents, for your approval, a display of professional books and journals geared to the latest and most important trends in current medicine and surgery. These publications, written and edited by men active in clinical fields and teaching, are a continuation of more than one hundred years of traditionally significant publishing.

MEDCO PRODUCTS CO.

The MEDCOLATOR Stimulator, for the stimulation of innervated muscle or muscle groups ancillary to treatment by massage, is a low volt generator that will be of interest to you. Electrical muscle stimulation is a valuable form of rehabilitation therapy. Be sure to visit our booth for a personal demonstration.

THE MEDITRON CO.

The Meditron Company will exhibit electronic instruments for the physiatrist. With the Electromyograph Model 201A, normal and abnormal electromyograms will be demonstrated throughout the meeting. Also demonstrated will be the Model PM Treatment Stimulator, AC and DC output for electrically exercising normal, denervated, partially denervated and re-innervated muscles; Model "B" Battery Operated Direct Nerve Stimulator, and the Golseth-Fizzell Constant Current Impulse Stimulator.

PHILIP MORRIS & CO., LTD., INC.

Philip Morris and Company will show the results of research on the irritant effects of cigarette smoke. These results show conclusively that Philip Morris are less irritating than other cigarettes. An interesting demonstration will be made on smokers at the exhibit which will show the difference in cigarettes.

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RADIOLOGICAL CORP. OF AMERICA

Radiological Corporation of America, Orange, New Jersey, will exhibit in booth 29, the new Siemens shortwave equipment ULTRATHERM "525" with automatic tuning device SERVOMAT; also exhibited will be the ultrasound therapy unit SONOSTAT "812".

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The Raytheon Manufacturing Company will exhibit the popular Raytheon MICROTHERM, the biggest advance in medical diathermy in recent years. The MICROTHERM utilizes radar frequency energy for the best results in deep heating, the most comfortable type of treatment, and extreme ease of operation. Raytheon representatives will be on hand to demonstrate the MICROTHERM and to answer your questions.

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Specialists will assist in complete installations of equipment in setting up rehabilitation centers, physical therapy departments, and continued home therapy for the patient. Consultation, design and development departments bring you better equipment for physical medicine and rehabilitation. See the portable parallel bars, bathtub safety rails, dura-lite aluminum adjustable under-arm crutches, resistive exercise equipment, and aids for A.D.L.

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The Scully-Walton Exhibit will feature Everest & Jennings Wheelchairs and wheelchair accessories, the new Improved Hoyer Invalid Lift, as well as special equipment and aids for the handicapped.

TECA CORP.

Teca Corporation, New York, is showing a complete line of low volt generators including its variable frequency units which are used in leading hospitals throughout the country. Also shown will be the Teca Chronaxie Meter, which incorporates a number of unusual features. Kindly ask for a demonstration of any unit exhibited.

THE TECHNICON CO.

The Technicon Company will exhibit the Technicon-Huxley Chest-Abdomen Respirator. This unique, portable respirator ventilates more effectively, as it affects both the diaphragm and inter-costal muscles of the patient. Although this efficient ventilation is acquired, the unit is completely portable and the patient is not rigidly confined. The respirator will be in operation at all times in booth 5. Please visit us.

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On exhibit will be the Dickson Paraffin Baths which were pioneered and developed in cooperation with Cleveland hospitals. The Dickson Paraffin Baths have been in continuous use, in these hospitals, for the past ten to fifteen years. Unusual features of the apparatus are: mahogany moldings designed for the comfort of the patient; double control of the melting element insuring maximum safety, and a patented drain. Two models will be shown.

ULTRASONIC MEDICAL EQUIPMENT CORP.

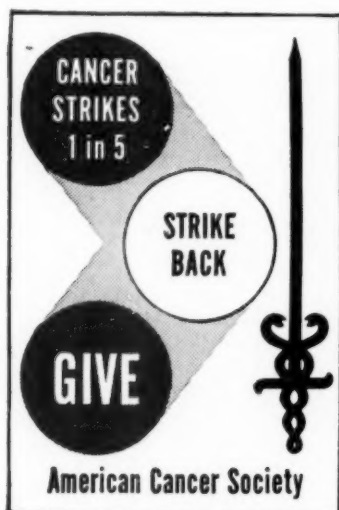
The Ultrasonic Medical Equipment Corporation, New York, will show a full line of Ultrasonic Therapy equipment from a small portable to a large hospital unit with and without impulse device. The latest model with light indicator for positive transmission of Ultrasound (Pat. pending) will also be exhibited.

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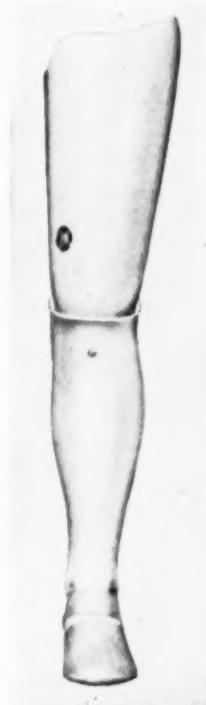
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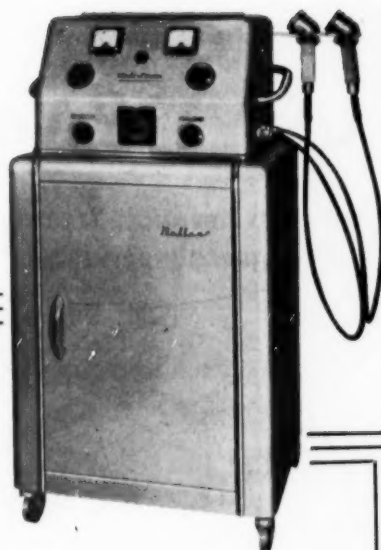


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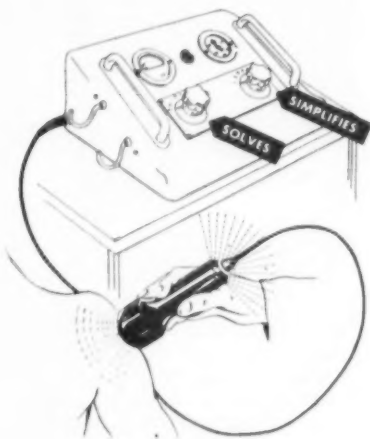
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MEETINGS OF INTEREST TO THOSE IN THE FIELD OF PHYSICAL MEDICINE AND REHABILITATION

In this column will be published information about meetings of interest to those in the field of physical medicine. New data should be sent promptly to the office of the ARCHIVES, 30 North Michigan Avenue, Chicago 2, Illinois.

American Congress of Physical Medicine and Rehabilitation — 31st Annual Session, The Palmer House, Chicago, August 31 through September 4, 1953. Walter J. Zeiter, M.D., Chairman, Convention Committee, 30 North Michigan Ave., Chicago 2.

Chicago Society of Physical Medicine and Rehabilitation — Regular monthly meetings, September through May, every fourth Wednesday. Dr. Joseph Koczur, Secretary-Treasurer, 55 E. Washington St., Chicago.

Latin-American Congress of Physical Medicine — Scheduled for February, 1954. Cassius Lopez de Victoria, M.D., Executive Director, 176 E. 71st St., New York 21, N. Y.

New York Society of Physical Medicine — Monthly meetings held first Wednesday. Madge C. L. McGuinness, M.D., Secretary, 48 E. 62nd St., New York 21, N. Y.

Pennsylvania Academy of Physical Medicine and Rehabilitation — Regular meetings on third Thursday of month, held bi-monthly. Secretary, J. Murl Johnston, M.D., 694 Washington Rd., Mt. Lebanon, Pittsburgh, Pa.

American Occupational Therapy Association — Annual Conference, November 13-20, 1953. Shamrock Hotel, Houston, Texas. Marjorie Fish, OTR, Executive Director, 33 West 42nd Street, New York 18, N. Y.

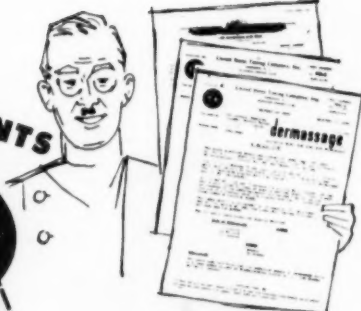
International

World Congress of the World Confederation for Physical Therapy — London, England, September 7-12, 1953. Secretary, Miss M. J. Neilson, Chartered Society of Physiotherapy, Tavistock House, South, Tavistock Square, London, W.C. 1, England.

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